



Polychlorinated Biphenyl (PCB) Remediation Completion REPORT

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APPENDIX

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1. INTRODUCTION

This Polychlorinated Biphenyl (PCB) Remediation Completion Report has been prepared by Woodard & Curran (W&C) on behalf of Safety-Kleen Systems, Inc. (Safety-Kleen) to comply with the requirements set forth in the United States Environmental Protection Agency's (EPA) January 20, 2011 PCB Cleanup and Disposal Approval (Approval) granted under 40 CFR 761.61(a) for the subject work. The Approval is provided in **Appendix A** of this Report. This Report documents PCB remediation activities conducted at the Safety-Kleen Cranston facility (Site), located at 167 Mill Street in Cranston, Rhode Island. A Site Locus Map is included as **Figure 1**.

1.1 PROJECT BACKGROUND/CONCEPTUAL SITE MODEL

The Site has been used for various industrial purposes since at least the mid-1800s, including a dye works, printing and finishing company, and rubber tubing manufacturer. The Site has operated as a hazardous waste treatment, storage and disposal facility (TSDF) since approximately 1979. The portion of the Site subject to PCB remediation is comprised of an approximately 1,000 square foot grass and vegetation-covered area adjacent to Building M, which is located on the northeastern portion of the Site. A 250-square foot concrete pad is located between Building M and the PCB remediation area. The concrete pad was formerly suspected to be a transformer pad, but after further investigation it is now believed to have supported a dust collector related to rubber tubing manufacturing operations. PCB-containing materials were likely released in ambient dust generated from former Site operations and dispersed over the ground surface surrounding the dust collector over time. As such, shallow soil impacts were suspected in the vicinity of the concrete pad that formerly housed the dust collector.

Woodard & Curran (W&C) collected four shallow (grade to 2 feet below ground surface) soil samples adjacent to each side of the concrete pad in November 2007. Aroclor 1254 was detected in one of the soil samples above Rhode Island Department of Environmental Management (RIDEM) Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations) Industrial/Commercial Direct Exposure Criteria (I/CDEC) of 10 mg/kg. A Hazardous Material Release Notification Form was submitted to RIDEM in December 2007 that included the PCB exceedances and other exceedances of non-PCB constituents detected in different areas of the Site.

Additional soil characterization sampling was conducted in the vicinity of the PCB exceedance between May 2008 and September 2010 to delineate the extent of PCB-impacted soil in this area of the Site. W&C submitted a Self-Implementing On-Site Cleanup and Disposal Plan (SIP) to EPA in November 2010 that described the results of soil characterization activities and proposed activities to remediate PCB impacted soil. Upon receipt of USEPA comments to the initial SIP submittal, a revised SIP was submitted in January 2011. EPA granted an Approval of the revised SIP in January 2011.

1.2 SUBMITTALS AND PROJECT TIMELINE

The following list provides a summary of the major activities conducted and document submittals prepared as part of the remediation activities. It should be noted that characterization sampling described in the SIP submittal was conducted over several sampling events that occurred between November 2007 and September 2010.

- Self-Implementing On-Site Cleanup and Disposal Plan (SIP) – November 3, 2010
- Response to EPA Comments dated December 8, 2011 – December 20, 2011
- Response to EPA Comments emailed January 4, 2011 – January 6, 2011
- PCB Cleanup and Disposal Approval under 40 CFR 761.61(a) and (c), issued by EPA – January 20, 2011

- EPA Approval of Notifications, Certifications and Contractor Work Plan – March 25, 2011
- PCB Remediation Activities Commenced – June 8, 2011
- PCB Remediation Activities Completed – August 19, 2011

1.3 REPORT OBJECTIVES

This Report provides a description of the project activities as they were performed in accordance with the PCB Cleanup and Disposal Approval issued by EPA under 40 CFR 761.61(a) on January 20, 2011. This Report is being submitted to meet the requirements pursuant to Recordkeeping and Reporting Condition 19 as described in EPA's January 20, 2011 Approval.

2. REMEDIAL ACTION IMPLEMENTATION

This section describes the PCB cleanup and disposal activities conducted at the Site under the Approval, consistent with the requirements of 40 CFR 761.61(a). Remediation activities began on June 8, 2011 and were completed on August 19, 2011. Activities were conducted in accordance with the Approval and related submittals listed in Section 1.3. A summary of activities including site preparation and controls, soil excavation and segregation, verification sample collection, and soil disposal are presented in the following sections.

2.1 SITE PREPARATIONS AND CONTROLS

Prior to initiating the soil excavation, site controls were implemented as described in Section 3.3 of the SIP and W&C's response to USEPA's comments dated December 8, 2010. These preparations included the development of a Health & Safety Plan, filing notices and certifications with EPA pursuant to Conditions 9 and 11 of the Approval (see **Appendix A**), Dig Safe marking and notification, installation of erosion and sedimentation controls downgradient from the proposed excavation area, and procurement of fencing materials and polyethylene sheeting to secure the proposed excavation area.

2.2 SOIL REMOVAL AND VERIFICATION SAMPLING

Soil excavation activities were conducted by United Industrial Services (UIS) of Meriden, Connecticut in June-August 2011. All ambient air monitoring and verification soil sampling activities were conducted by W&C. Soil excavation activities began on June 8, 2011.

2.2.1 Methods

W&C contacted DigSafe Systems, Inc. prior to excavation activities. Soil excavation areas were pre-marked by W&C prior to beginning excavation using paint and orange survey flags. UIS used a Takeuchi TB-135 mini hydraulic excavator to excavate PCB-impacted soil. Due to the location of the excavation area with respect to the Site building and adjacent property line and Pawtuxet River, roll-off containers were staged approximately 25 feet from the excavation area on an asphalt paved surface. Soils were live-loaded from the excavation area into a Bobcat S185 and transported into lined 30-cubic yard roll-off containers. The bucket of the Bobcat S185 was filled approximately half way to prevent spillage of excavated soil and the Bobcat remained outside of the extent of the excavation to prevent adherence of excavation soil to the treads of the Bobcat. The Bobcat was emptied over the roll-off container, and polyethylene sheeting was placed adjacent to the roll-off container to capture any loose soil that may have fallen from the bucket.

All soil excavation activities were conducted with one operator in the Takeuchi TB-135 and a second operator in the Bobcat S185. W&C misted soil with a hose as needed and verified that the extent of each excavation area was reached. Upon achieving proposed excavation depths, post-excavation soil samples were collected in accordance with a 40 CFR 761.280 (Subpart O) sampling plan as described in the SIP. Verification samples were collected from a depth of 0-3" at the base of the excavation area, and from the midpoint of the excavation sidewall from a 3" increment extending into the sidewall.

If initial verification sample results demonstrated that PCB concentrations exceeded the project action limit (PAL) of either ≥ 10 ppm or ≥ 50 ppm, additional soil excavation was conducted and additional verification sampling at an off-set grid was performed until results confirmed that residual PCB levels were below PALs. All excavation equipment was decontaminated in accordance with the methodology described UIS' Work Plan prior to moving from ≥ 50 ppm PCB excavation areas to the ≥ 10 ppm and < 50 ppm PCB excavation areas, and all samples were collected using dedicated sampling equipment. Samples were transferred on ice to ESS Environmental Laboratory of Cranston,

Rhode Island, under standard chain-of-custody procedures. Samples were extracted using USEPA Method 3540C and analyzed using USEPA Method 8082. Electronic versions of the complete laboratory analytical reports are provided on CD in **Appendix B**.

2.2.2 Excavation Area

Cleanup and disposal of PCB-impacted soil was proposed over an estimated 1,000 square feet. Initial proposed excavation depths ranged from 0.5 – 2.0 feet below ground surface (bgs). Approximately 600 square feet of the proposed excavation area was previously delineated to contain soil impacted with PCBs ≥ 50 ppm, and approximately 400 square feet of the proposed excavation area was previously delineated to contain soil impacted with PCBs ≥ 10 ppm and < 50 ppm.

2.2.3 Excavation of PCB Remediation Waste ≥ 50 ppm

Portions of the excavation area containing soil with PCB concentrations ≥ 50 ppm was previously delineated and depicted on Figure 4 of the SIP that was submitted to the USEPA. In accordance with W&C's January 6, 2011 emailed response to EPA's comments dated December 8, 2010, excavation of the ≥ 50 ppm PCB-impacted soil and subsequent verification sampling was conducted prior to commencement of excavation of the ≥ 10 ppm and < 50 ppm PCB-impacted soil in order to verify that all ≥ 50 ppm soil was removed from the excavation area prior to excavation of the ≥ 10 ppm and < 50 ppm PCB-impacted soil.

2.2.4 Excavation of PCB Remediation Waste ≥ 10 ppm and < 50 ppm

Results of the June 8 and June 9, 2011 excavation and verification sampling activities demonstrated that soil impacted with PCBs ≥ 50 ppm was removed from a significant portion of the excavation area. Remaining ≥ 50 ppm PCB impacted soil was present in localized areas in the north-northeastern portion of the excavation area. Portions of the excavation area previously delineated to contain concentrations of PCBs ≥ 10 ppm and < 50 ppm that were located next to soil samples that contained PCBs < 50 ppm were inferred to contain concentrations of PCBs < 50 ppm and ≥ 10 ppm. As such, excavation of these soils commenced on June 21, 2011. Soil generated from this portion of the excavation was segregated in a dedicated, lined roll-off container for disposal as non-hazardous waste.

2.3 EXCAVATION AND VERIFICATION SAMPLING ACTIVITIES

Excavation of PCB impacted soil and collection of verification samples commenced on June 8, 2011 and ended on August 5, 2011. Iterations of each sampling event are described in the following sections.

2.3.1 June 8 – June 9, 2011 ≥ 50 ppm PCB-Impacted Soil Excavation and Verification Sampling Activities

Excavation of ≥ 50 ppm PCB-impacted soil commenced on June 8, 2011. Soil excavated from this area was managed as hazardous waste in accordance with the SIP and segregated in a dedicated lined roll-off container as described in Section 2.2.1. Upon completion of soil excavation activities, 24 verification samples were collected from the excavation floor (VB-1 through VB-24) and 24 verification samples were collected from the excavation sidewalls (SW-1 through SW-24). Verification sample locations are depicted on **Figure 2**. Laboratory analytical results demonstrated that 8 of the sidewall samples contained concentrations of PCBs above PALs, and 3 of the excavation floor samples contained PCB concentrations above PALs.

Summary of PAL Exceedances: June 8 – June 9, 2011 Verification Samples

Sidewall Sample	PCB Concentration (ppm)
SW-1	236
SW-4	43.6
SW-8	1,920
SW-10	32.1
SW-11	29.3
SW-13	15.72
SW-14	183
SW-23	20.5
Excavation Floor Sample	PCB Concentration (ppm)
VB-2	23.3
VB-16	689
VB-17	177

Of these exceedances, four of the sidewall samples (SW-10, SW-11, SW-13 and SW-23) contained PCB concentrations ≥ 10 ppm and < 50 ppm and were located adjacent to areas of the excavation that were previously delineated to contain concentrations of PCBs ≥ 10 ppm and < 50 ppm. Additionally, excavation floor samples collected adjacent to VB-2 (VB-1, VB-3, VB-5, VB-6 and VB-7) contained PCBs in concentrations < 10 ppm. As such, remaining soil to be excavated from these areas was treated as ≥ 10 ppm and < 50 ppm non-hazardous waste and is described further in Section 2.3.3.

Three sidewall samples (SW-1, SW-8 and SW-14) and two excavation floor samples (VB-16 and VB-17) contained concentrations of PCBs ≥ 50 ppm. Sidewall samples SW-4 and SW-6, which were located adjacent to SW-1 and SW-8 but contained concentrations of PCBs < 50 ppm, were treated as ≥ 50 ppm soil due to their close proximity to samples containing PCBs ≥ 50 ppm. Excavation of these soils is described in Section 2.3.2.

2.3.2 June 17 – June 20, 2011 ≥ 50 ppm PCB-Impacted Soil Excavation and Verification Sampling Activities

On June 17 and June 20, 2011, eight sidewall samples (SW-25, SW-26, SW-27, SW-28, SW-29, SW-30, SW-31, SW-32) and six excavation floor samples (VB-25, VB-26, VB-27, VB-28, VB-16B and VB-17B) were collected from

the area containing ≥ 50 ppm soil remaining from the June 8 and June 9, 2011 excavation activities. Excavation sidewalls were extended 5' beyond the former edge of the excavation in the vicinity of SW-1, SW-4, SW-6 and SW-8. Soil was excavated to a depth of 0.5' below ground surface (bgs) near SW-1 and SW-4, and to a depth of 2' bgs near SW-6 and SW-8. Additional sidewall samples and excavation floor samples were collected from this portion of the excavation. An additional 6" lift of soil was excavated from the vicinity of VB-16 and VB-17 and new verification excavation floor samples were collected from 2' bgs from these areas (VB-16B and VB-17B). Verification sample locations are depicted on **Figure 3**. Because SW-14 was located directly beneath a chain-linked fence used to demarcate the property boundary, the excavation could not be extended an additional 5'. In this location, an additional 3" of soil was excavated along 5 linear feet on each side of SW-14 to a depth of 1.5' bgs and a new sidewall sample (SW-32) was collected.

All excavation floor samples collected during this sampling event were < 10 ppm. Four of the sidewall samples contained PCBs ≥ 50 ppm (SW-25, SW-26, SW-28 and SW-29); and two of the sidewall samples contained PCBs ≥ 10 ppm and < 50 ppm (SW-27 and SW-32).

Summary of PAL Exceedances: June 17 – June 20, 2011 Verification Samples

Sidewall Sample	PCB Concentration (ppm)
SW-25	70.8
SW-26	468
SW-27	27.2
SW-28	80.6
SW-29	126
SW-32	26.5

Because SW-27 was located in between two ≥ 50 ppm soil samples, soil excavated from this location was managed as ≥ 50 ppm PCB remediation waste. Excavation of these soils is described in Section 2.3.4. Laboratory analytical results for SW-32 (collected from the vicinity of SW-14) were ≥ 10 ppm and < 50 ppm, requiring additional excavation in this area. The additional soil excavated from this area was managed as ≥ 10 ppm and < 50 ppm non-hazardous waste and is described further in Section 2.3.5.

2.3.3 June 21, 2011 ≥ 10 ppm and < 50 ppm PCB-Impacted Soil Excavation and Verification Sampling Activities

On June 21, 2011, soils containing PCBs ≥ 10 ppm and < 50 ppm were excavated. Based on the June 8 and June 9, 2011 laboratory analytical results, excavation sidewalls were extended in the vicinity of SW-10, SW-11 and SW-13 by extending the length of the excavation 5' beyond its former edge. Soil was excavated from this location to a depth of 1.5' bgs, consistent with the depth of adjacent ≥ 50 ppm soil that was excavated during the June 8 and June 9

excavation activities. Two sidewall samples (SW-33 and SW-34) and two excavation floor samples (VB-29 and VB-30) were collected from these areas at locations depicted on **Figure 3**. Soil located in the vicinity of SW-23 was also excavated by extending the length of the excavation 5' beyond its former edge and collecting sidewall samples (SW-43, SW-44 and SW-50) and an excavation floor sample (VB-38) from a depth of 2' bgs, consistent with the depth of adjacent ≥ 50 ppm soil, from locations depicted on **Figure 3**. Additionally, a 6" lift of soil was also excavated from the vicinity of VB-2, which contained PCBs ≥ 10 ppm and < 50 ppm during the June 8 and June 9, 2011 sampling event, and another verification excavation floor sample was collected (VB-2B) from a depth of 1' bgs. Laboratory analytical results of these verification samples demonstrated soils containing concentrations of PCBs ≥ 10 ppm were removed from the excavation area in these locations, with the exception of SW-44, which contained PCBs ≥ 10 ppm and < 50 ppm.

Upon completion of the extended excavation areas, the previously delineated ≥ 10 ppm and < 50 ppm excavation areas that were located adjacent to ≥ 50 ppm excavation areas where < 50 ppm confirmatory sample results were achieved were excavated. Sidewall samples SW-35, SW-36, SW-37, SW-38, SW-39, SW-40, SW-41, SW-42, SW-45, SW-46, SW-47, SW-48 and SW-49 and excavation floor samples VB-34, VB-35, VB-36, VB-37, VB-39, VB-40 and VB-41 were collected from these areas, resulting in a total of 18 sidewall samples and 14 excavation floor samples. Laboratory analytical results demonstrated that 7 of the sidewall samples contained concentrations of PCBs above PALs.

Summary of PAL Exceedances: June 20 – June 21, 2011 Verification Samples

Sidewall Sample	PCB Concentration (ppm)
SW-39	25.09
SW-40	30.9
SW-41	47.1
SW-42	13.98
SW-44	10.89
SW-45	110
SW-46	27.93

The vicinity of SW-45, which contained PCBs ≥ 50 ppm, and SW-44 and SW-46, which were located adjacent to SW-45, was subsequently excavated and managed as ≥ 50 ppm hazardous waste soil. Due to the close proximity of SW-25, which contained PCBs ≥ 50 ppm, soil located in the vicinity of SW-40 and SW-41 was also managed as ≥ 50 ppm hazardous waste soil. Excavation of soil from these locations is described further in Section 2.3.4.

Excavation of the ≥ 10 ppm but < 50 ppm soil remaining in the excavation area is described further below.

2.3.4 July 12 – July 15, 2011 ≥ 50 ppm Excavation and Verification Sampling Activities

Between July 12 and July 15, 2011, excavation sidewalls were extended 5' beyond the former excavation edge in the vicinity of SW-25, SW-26, SW-27, SW-28 and SW-29, and soil was excavated to 0.5' bgs. Two large oak trees were located within the vicinity of SW-25 and SW-26, so in these areas the excavation was extended to the extent practicable without damaging the roots of the trees and new sidewall samples were collected. The vicinity of the roots located in between SW-25 and SW-26 was hand dug with a shovel to the extent practicable without damaging the tree and a second sample was collected from this area (SW-25A). Sidewall and excavation floor samples were collected from other areas of the excavation at offset locations as shown on **Figure 4**. All soil excavated from this area was managed as ≥ 50 ppm PCB remediation waste.

Laboratory analytical results from soil samples collected during the June 21, 2011 sampling event (see Section 2.2.3) that were adjacent to SW-25 (SW-40 and SW-41) contained PCBs ≥ 10 ppm and < 50 ppm. Due to the close proximity of these samples to SW-25 and SW-26, excavation sidewalls were also extended 5' beyond the former excavation edge in these areas and soil excavated from this location was also managed as ≥ 50 ppm hazardous waste. The vicinity of SW-40 and SW-41 was located next to a large oak tree, so in this location the excavation was extended to the extent practicable without damaging the roots of the tree and a new sidewall sample was collected (SW-41A).

Seven sidewall samples (SW-25A, SW-41A, SW-51, SW-52, SW-53, SW-54 and SW-55) and 6 excavation floor samples (VB-42, VB-43, VB-44, VB-45, VB-46 and VB-47) were collected from the extended excavation area. Laboratory analytical results demonstrated one of the sidewall samples (SW-53) and four of the excavation floor samples (VB-42, VB-43, VB-44 and VB-46) contained PCBs ≥ 10 ppm and < 50 ppm. As such, additional soil excavated from this area was managed as ≥ 10 ppm and < 50 ppm soil and is described further in Section 2.3.6. Sidewall sample SW-25A contained PCBs ≥ 50 ppm. Additional soil was excavated from this location during the excavation activities described in Section 2.3.7 and managed as hazardous waste.

Laboratory analytical results of verification sidewall samples collected on June 21, 2011 (see Section 2.2.4.1) also demonstrated concentration of PCBs ≥ 50 ppm remained in the excavation area in the vicinity of SW-45. Soil samples collected from either side of this sidewall (SW-44 and SW-46) contained concentrations of PCBs ≥ 10 ppm and < 50 ppm; however, due to the close proximity of SW-45 to these samples, additional soil excavated from these locations was managed as ≥ 50 ppm soil. On July 12, 2011, soil located in the vicinity of SW-44, SW-45 and SW-46 was removed from the excavation area and managed as ≥ 50 ppm PCB remediation waste. Because these three soil sample locations were located near the property boundary adjacent to a chain linked fence, an additional 3" of soil was excavated from the sidewall over an approximately 20 linear foot area and three representative sidewall samples were collected (SW-44A, SW-45A and SW-46A).

Summary of PAL Exceedances: July 12 – July 15, 2011 Verification Samples

Sidewall Sample	PCB Concentration (ppm)
SW-25A	112.9
SW-41A	48.6
SW-53	13.52

Excavation Floor Sample	PCB Concentration (ppm)
VB-42	17.02
VB-43	10.27
VB-44	14.83
VB-46	11.64

Laboratory analytical results of verification sidewall samples and verification excavation floor samples demonstrated soils containing concentrations of PCBs ≥ 50 ppm were removed from the excavation area, with the exception of residual soil located within the roots of the oak trees present within the excavation area (SW-25A). Additional excavation of these soils is described in Section 2.3.7.

2.3.5 July 15, 2011 ≥ 10 ppm and < 50 ppm PCB-Impacted Soil Excavation and Verification Sampling Activities

On July 15, 2011, remaining areas that contained PCBs ≥ 10 ppm and < 50 ppm from the June 21, 2011 excavation activities were excavated. Excavation sidewalls were extended 5' beyond the edge of the former excavation area to a depth of 1' bgs in the vicinity of SW-39 and SW-42 and sidewall samples and excavation floor samples were collected as shown on **Figure 4**. One sidewall sample was collected from the vicinity of the extended excavation near SW-39 (SW-39A) and 3 sidewall samples were collected from the vicinity of the extended excavation to the east of SW-39 and SW-42 (SW-56, SW-57 and SW-58). Three excavation floor samples were collected from the bottom of the excavation (VB-48, VB-49 and VB-50). Additionally, soil was collected from the sidewall in the vicinity of SW-32 (formerly SW-14), which was located directly beneath a chain-linked fence along the property boundary. In this location, an additional 3" of soil was excavated from the sidewall over a 10 linear foot area to a depth of 2' bgs and SW-32A was collected.

Summary of PAL Exceedances: July 15, 2011 Verification Samples

Sidewall Sample	PCB Concentration (ppm)
SW-56	20.17
SW-57	33.9

Laboratory analytical results demonstrated that two of the sidewall samples (SW-56 and SW-57) contained concentrations of PCBs ≥ 10 ppm and < 50 ppm. Additional soil was excavated from these areas and is described in Section 2.3.6.

2.3.6 July 26 – July 27, 2011 ≥ 10 ppm and < 50 ppm PCB-Impacted Soil Excavation and Verification Sampling Activities

On July 26, 2011, excavation sidewalls were extended 5' beyond the former excavation edge in the vicinity of SW-53, SW-56 and SW-57 and three sidewall samples (SW-56A, SW-57A and SW-59) and six excavation floor samples were collected (VB-42A, VB-51, VB-52, VB-53, VB-54 and VB-55). An additional 6" lift of soil was excavated in the vicinity of VB-42, VB-43, VB-44 and VB-46 and new verification samples (VB-42A, VB-43A, VB-44A and VB-46A) were collected from these areas as shown on **Figure 5**.

VB-42A and VB-51 were collected from the vicinity of SW-59, confirming that a small quantity of soil impacted with PCBs ≥ 10 ppm and < 50 ppm remained in the excavation area. Excavation of these soils is described in Section 2.3.8.

2.3.7 July 27, 2011 ≥ 50 ppm PCB-Impacted Soil Excavation and Verification Sampling Activities

On July 27, 2011, residual soil located within the roots of the oak trees in the vicinity of SW-25A was hand dug with a shovel to the extent practicable without damaging the root structure. Because adequate soil could not be obtained from sidewalls due to the presence of roots and other organic material, verification bottom samples VB-52 and VB-53 were collected from the vicinity of SW-25A. Verification sample locations are depicted on **Figure 5**. Laboratory analytical results demonstrated that soil in this location of the excavation contained PCBs < 10 ppm. As such, all ≥ 50 ppm PCB impacted soil was removed from the excavation area.

Summary of PAL Exceedances: July 26 – July 27, 2011 Verification Samples

Sidewall Sample	PCB Concentration (ppm)
SW-59	19.11
Excavation Floor Sample	PCB Concentration (ppm)
VB-42A	10.947
VB-51	10.69

2.3.8 August 5, 2011 ≥ 10 ppm and < 50 ppm PCB-Impacted Soil Excavation and Verification Sampling Activities

On August 5, 2011, excavation sidewalls were extended 5' beyond the former excavation edge in the vicinity of SW-59 and 2 sidewall samples (SW-59A and SW-59B) were collected. An additional 6" lift of soil was excavated in the vicinity of VB-42A and VB-51, and new verification samples were collected from these areas as shown on **Figure 6**. One sample, VB-42B, contained concentrations of PCBs above the PAL of 10 ppm. A statistical analysis performed in support of obtaining compliance with RIDEM criteria is described in Section 4.

2.3.9 Removal Summary

The initial set of verification data included 135 primary soil samples. Analytical results indicated that 96 of these samples contained PCBs at concentrations < 10 ppm. Additional soil removal was conducted at 39 locations exceeding the ≥ 10 ppm criteria, representing 29% of the soil removal areas.

The final depth of excavation did not exceed 24 inches bgs in any area of the Site. Approximately 12% of the area (190 ft²) was excavated to 6 inches bgs, 51% of the area (800 ft²) was excavated to 12 inches bgs, 7% of the area (115 ft²) was excavated to 18 inches bgs and 30% of the area (465 ft²) was excavated to 24 inches bgs. In addition, approximately 80% of the area (54 yd³) was removed as hazardous waste soil, and 20% of the area (14 yd³) was removed as non-hazardous waste soil. The removal depths and areas are depicted on **Figure 2 - Figure 6**.

The volume of in-place soils excavated from the Site totaled 68 yd³ (14 yd³ non-hazardous waste, 54 yd³ hazardous waste). This number was calculated given the excavation area and known excavation depths in each area as shown on **Figure 2 - 6**. This 68 yd³ volume is 38.3% greater than the 42 yd³ estimated in the SIP because of the expanded removal area. Given the density of soils and slight volumetric expansion expected upon removal from the ground, this figure is consistent with the total weight of soils (108.33 tons) as measured at the disposal facilities. Refer to Section 2.4 for complete disposal documentation.

2.4 AIR MONITORING

Air monitoring was conducted in accordance with the perimeter air monitoring plan included as an attachment in UIS's Contractor Work Plan submitted to EPA on March 23, 2011. Either a Dustrak Model 8520 or a Dustrak II Model 8520 aerosol monitor was used to monitor ambient air quality in the excavation area. Due to the relatively small size and low occupancy status of the excavation area, one air monitor was used. The monitoring location was selected based on predominant wind direction during daily excavation activities in order to monitor air conditions in the breathing zone of potential receptors, which included Safety-Kleen, UIS and W&C employees. The air monitor was set up to record readings continuously during active removal activities, and readings were recorded at least once every hour.

There were no instances of visible dust generation from the soil removal area during any site activities, as soils that appeared dry on the ground were misted with water prior to removal and throughout the course of excavation activities. There were no exceedances of the total airborne particulate action limit (0.1 mg/m³ above background) during any site activities with the exception of one reading collected during excavation activities on July 12, 2011; however, as soil in the excavation had been misted with water throughout excavation activities, it is likely that this reading (0.128 mg/m³) was likely caused by exhaust fumes from the nearby excavator and not by dust from the excavation. Readings collected before and after the excavator moved from this portion of the excavation were below the action limit (0.077 mg/m³ and 0.097 mg/m³) were below the action limit; as such, no corrective actions were necessary.

2.5 STORAGE & DISPOSAL

Storage and disposal activities were completed in accordance with the procedures outlined in Section 3.6 of the SIP and W&C's response to EPA's comments dated December 20, 2010. All proposed and active excavation areas were secured by chain-link fencing on the northern side of the excavation and orange snow fencing around the remainder of the excavation area throughout the duration of the work activities. All soils and other PCB remediation wastes generated in association with removal activities (i.e. polyethylene sheeting, PPE) were placed in secure, lined, covered, and marked 20-cubic yard and 30-cubic yard roll-off waste containers that were kept within fence perimeters

while on-site. The PCB wastes were managed in accordance with 40 CFR 761.65 and labeled in accordance with 40 CFR 761.40.

Filled roll-off containers were transported off-site by UIS. Soils classified as hazardous waste (≥ 50 ppm PCBs) were transported under manifest to the Chemical Waste Management hazardous waste facility in Model City, New York. Soils classified as non-hazardous waste (< 50 ppm PCBs) were segregated for disposal and transported under bills of lading to the Turnkey Recycling and Environmental Enterprises (TREE) non-hazardous waste disposal facility in Rochester, New Hampshire. Six trucks (each carrying a single roll-off) delivered a total weight of 84.79 tons of hazardous waste soils to the Model City facility, and 2 trucks (each carrying a single roll-off) delivered a total weight of 23.54 tons of non-hazardous soils to the TREE facility. An overall weight of 108.33 tons of material was removed for off-site disposal, with the first load shipped on June 10, 2011 and the last load shipped on August 9, 2011.

Pursuant to Recordkeeping and Reporting Condition 19 of the Approval, copies of all waste shipment records including manifests, bills of lading, and certificates of disposal are provided in **Appendix C**.

2.6 SITE RESTORATION

Following completion of the removal activities and verification that the cleanup levels had been met, UIS backfilled all soil excavation areas with loam imported from Smithfield Peat Company, Inc. of Smithfield, Rhode Island. Prior to delivery, W&C submitted a sample of the loam to ESS Environmental Laboratory of Cranston, Rhode Island for analysis of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), priority pollutant metals (PP-13), barium, total cyanide, PCBs by 3540C extraction and 8082 analysis, pesticides, and total petroleum hydrocarbons (TPH). Laboratory analytical results were compared to RIDEM's Method 1 Residential Direct Exposure Criteria. No exceedances of the criteria were reported, confirming that the backfill material was acceptable for on-site use. Laboratory certificates of analysis generated from backfill soil samples are provided in **Appendix D**.

UIS dismantled the site controls (orange snow fencing surrounding the excavation perimeter) after the excavation was backfilled and compacted to surface grade with the excavator bucket. UIS then restored the ground surface to its original grass-covered condition. Backfilling was finished on August 19, 2011, signifying the official completion date of the excavation activities as the last shipment of waste material had already been removed from the Site.

3. DATA USABILITY ASSESSMENT

This data quality and data usability assessment reviews the results of the post-excavation soil verification samples collected from the Site by W&C personnel between June and August 2011. This precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) parameter evaluation includes an assessment of the parameters and QA/QC samples as they affect the usability of site sample results. These indicators have been examined in the context of the intended use of the data, and an overall assessment of site soil conditions.

Data validation was conducted internally by W&C personnel according to a modified Tier II validation procedure. This review included a completeness check of field documentation including sample collection and preservation methods, a completeness check of the laboratory data and documentation, a review of the internal laboratory QA/QC procedures and results including surrogate recoveries, matrix spike and matrix spike duplicate results, blank results, and laboratory control standard results, and an evaluation of sample holding times, trip blank results, and field duplicate results. The assessment was performed in general conformance with USEPA Region I Guidelines and the Quality Control Guidelines for the Acquisition. Data validation summary sheets are provided in **Appendix E**.

Sample extraction and analysis was performed by ESS Laboratory of Cranston, Rhode Island. All samples were extracted by USEPA Method 3540C (Soxhlet Extraction) and analyzed for PCBs by USEPA Method 8082.

3.1 PRECISION

Field duplicate samples were collected at a frequency of 1 duplicate sample, 1 matrix spike sample, and 1 matrix spike duplicate sample per 20 primary samples during the verification sampling event.

A total of 7 duplicate, matrix spike, and matrix spike samples were collected to analyze the precision of the 135 primary verification sample results. Relative percent differences (RPDs) between the primary and associated duplicate samples were within acceptance criteria for all samples; no qualifications were applied to the data as a result of field duplicate sample results.

As a result of the data validation process, data qualifiers were attached to certain sample results to indicate that the concentration is estimated. Data was qualified with a "P" if the percent difference between primary and confirmation results exceeded 40%. Primary and confirmation results typically differ in soil analyses due to heterogeneities inherent to the sample matrix, and the laboratory reports the higher of the two confirmation results. A "P" qualifier was applied to 6 of 144 primary verification samples (VB-1, VB-11, VB-12, VB-44, VB-42A and VB-42B).

3.2 ACCURACY

Accuracy of the analytical data was assessed by reviewing recoveries for matrix spikes (MS), matrix spike duplicates (MSD), surrogates, laboratory control samples (LCS) and laboratory control sample duplicates (LCSD). After review of this information, no qualifications were applied to the data as a result of MS/MSD, surrogate, or LCS/LCSD percent recoveries.

3.3 REPRESENTATIVENESS

Consistent procedures and laboratory analysis of the data were achieved. Sample containers were packed on ice and were accompanied by complete chain of custody forms from the time of sample collection until laboratory delivery. All samples were extracted and analyzed within the allowable holding time for the method. No analytes

were detected in the laboratory method blank analyses, indicating that there were no interferences introduced at the laboratory during sample analysis. Field equipment blank samples, collected at a frequency of one per twenty primary samples during this sampling event, were non-detect for all samples; no qualifications were applied to the data.

3.4 COMPLETENESS

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount of valid data expected. The data packages from ESS Laboratory were reviewed to ensure that all sample and associated quality assurance results were available. Results of the completeness review indicated that all collected samples were analyzed and all quality control results were available to complete the data validation process.

3.5 COMPARABILITY

Comparability measures the degree of confidence with which one data set can be compared to a related set of data. Based on a review of established standard methods and procedures for collection, analysis, and reporting of data, the data collected by W&C during this sampling event are considered to have met the requirements for comparability.

3.6 SENSITIVITY

Sensitivity was evaluated based on a review of the sample quantitation and reported quantitation limits. Laboratory reported detection limits typically met the site data quality objective (reporting limit ≤ 10 ppm), but sample dilutions due to elevated PCB concentrations did not make it possible to meet this objective for 11 of the 144 verification samples (SW-1, SW-4, SW-8, SW-14, SW-25, SW-26, SW-28, SW-29, VB-2, VB-16 and VB-17). In these instances, soils associated with these samples were subsequently excavated and resampled. Verification samples collected after additional soil removal at these four locations were all reported with detection limits below the 10 ppm PAL.

3.7 CONCLUSION

Based on a review of the analytical results with regard to the PARCCS parameters, this data quality / data usability assessment indicates that the data is of sufficient quality for use in rendering an opinion of soil conditions at the Site.

4. RIDEM STATISTICAL EVALUATION

As described in preceding sections of this report, the remedial activities conducted at the Site between June and August 2011 generated verification bottom samples representative of 55 locations and sidewall samples representative of 59 locations. Collection of verification and sidewall samples was conducted in an iterative process based on whether sample results contained concentrations of PCBs above cleanup levels, resulting in several rounds of excavation and confirmatory sample collection. Laboratory analytical results for all sidewall soil samples collected from the final lateral extent of excavation were below 10 mg/kg for each sample. Laboratory analytical results for all verification bottom samples collected from the final vertical extent of excavation were also below 10 mg/kg for each sample, with the exception of one verification bottom sample. This sample, VB-42B, contained concentrations of total PCBs at 10.95 mg/kg.

Because only one of the verification bottom soil samples contained PCBs above the RIDEM cleanup standard, W&C contacted Ms. Cynthia Gianfrancesco of RIDEM's Office of Waste Management (OWM) on August 15, 2011 by telephone to discuss whether additional excavation should occur at the Site. Ms. Gianfrancesco directed W&C to Rule 8.10 of the RIDEM Remediation Regulations for guidance.

Rule 8.10 (A)(ii) of the RIDEM Remediation Regulations, Compliance Sampling, states, in part:

"A performing party may propose in the Remedial Action Work Plan to verify compliance by geometrically gridding the former source area and taking not less than twenty compliance samples for laboratory analysis at the intersecting points of the grid. If a performing party utilizes this criteria they may also propose a statistical analysis methodology for determining compliance. The Department reserves the right to take or require additional compliance samples as warranted, and the statistical evaluation shall account for all samples taken. The methodology must meet the following criteria:

1. No single sample result exceeds the soil objective by a factor of 5;
2. No more than 10% of the individual sample results exceed the soil objective; and
3. No single sample result exceeds any Upper Concentration Limit as defined by Rule 8.07 (Upper Concentration Limits).

Because this portion of the Site is currently being managed under EPA's TSCA program as a TSCA-defined low-occupancy site, the applicable TSCA cleanup standard for PCBs in soil at the Site is 25 mg/kg. However, W&C proposed the more stringent 10 mg/kg cleanup standard in the SIP to comply with the RIDEM Remediation Regulations cleanup standard of 10 mg/kg. As such, while Rule 8.10(A)(ii) relates to Remedial Action Work Plan driven compliance sampling activities, W&C is using this rule to establish compliance with RIDEM regulations for the Site.

In order to verify compliance with Rule 8.10, W&C conducted a statistical analysis on all final soil verification bottom samples collected from the Site to determine whether the sample that contain PCBs above RIDEM's cleanup level of 10 mg/kg created a condition of non-compliance with the RIDEM Remediation Regulations.

W&C initially evaluated whether soil samples collected at the Site complied with the criteria in Rule 8.10(A)(ii) listed above. After it was determined that the soil samples were compliant with that criteria, final verification bottom soil samples were evaluated using USEPA's ProUCL (version 4.1) software, which incorporates a statistical approach based on USEPA Guidance Manual, Methods for Evaluating the Attainment of Cleanup Standards, Volume 1: Soils and Soil Media (USEPA, 1989) and the USEPA Issue Paper "The Lognormal Distribution in Environmental

Applications” (USEPA, 1997). These documents describe the statistical procedures for determining that cleanup standards have been attained based on the statistical distribution of the sampling data and statistical confidence interval.

During the statistical analysis of the soil laboratory analytical data, less than detection limit concentration values were used as part of the dataset comprising 55 samples. Of the 55 samples used for the statistical analysis, 47 of the soil samples contained concentrations of PCBs above laboratory method detection limits. Soil concentrations associated with either non-detected results or detected total PCBs for each verification bottom sample collected from the vertical extent of excavation were input into the ProUCL software, which used this information to calculate the UCL. In summary, ProUCL identified a UCL value of 2.874, which is significantly below the 10 mg/kg cleanup level for the Site. This value is based on a lognormal distribution of data using the 95% Kaplan-Meier (KM) estimates using the Bias Corrected Accelerated (BCA) Percentile Bootstrap Method and represents the limit that 95% of samples contain the true mean. A summary of the general UCL statistics generated by ProUCL are provided in **Appendix F**.

Based on ProUCL’s UCL of the mean, W&C concludes that verification bottom soils samples collected in support of the remedial activities conducted in accordance with the SIP confirm that remaining concentrations of PCBs in soil remaining in the excavation area meet the cleanup level of 10 mg/kg and are compliant with Rule 8.10 of RIDEM’s Remediation Regulations.

5. SUMMARY & CONCLUSIONS

This Report details the PCB cleanup and disposal activities conducted at the Safety-Kleen Cranston facility in accordance with the Notification and EPA's January 20, 2011 PCB Cleanup and Disposal Approval. On behalf of Safety-Kleen, W&C oversaw the soil remediation activities conducted by UIS between June 8 and August 20, 2011.

Cleanup and disposal of PCB-impacted soils were conducted over an area of approximately 1,600 square feet. Vertical limits of excavation ranged between 6 and 24 inches bgs. All soils and other PCB remediation wastes generated in association with removal activities were placed in secure, lined, covered, and labeled waste containers in accordance with 40 CFR 761.65 and 40 CFR 761.40.

Woodard & Curran conducted post-excavation verification sampling in accordance with a 40 CFR 761.280 (Subpart O) sampling plan as described in the SIP. Of the 135 initial verification samples, results indicated that PCB concentrations exceeded the 10 ppm cleanup level at 39 locations. Additional soil removal was conducted and additional verification sampling was performed until results confirmed that all residual PCB levels were less than 10 ppm. A data quality / data usability assessment indicated that the data is of sufficient quality for use in rendering an opinion of soil conditions at the Site.

The volume of in-place soils excavated from the Site totaled 68 yd³ (54 yd³ hazardous waste, 14 yd³ non-hazardous waste). A total weight of 84.79 tons of hazardous waste soils were shipped off-site for disposal at the Model City facility, and a total weight of 23.54 tons of non-hazardous waste soils were shipped off-site for disposal at the TREE facility. Overall, 108.33 tons of soils were removed for off-site disposal between June 10, 2011 and August 9, 2011. After removal activities were complete, UIS backfilled all excavation areas with clean fill.

Based on the results of the removal activities and verification data, the work met the conditions of the Approval and PCB-related remedial actions at the Site are considered complete.

Table 1: Soil Verification Data – Sidewall Sample Results

Table 1: Soil Verification Data - Sidewall Sample Results
Safety-Kleen Systems, Inc.
167 Mill Street, Cranston, RI

Sample Date		6/8/2011	6/8/2011	6/8/2011	6/8/2011	6/8/2011	6/8/2011	6/8/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011
Sample Identification		SW-1	SW-2	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8	Dup-SW-8	SW-9	SW-10	SW-11	SW-12	SW-13	SW-14	SW-15	Dup-SW-15	SW-16
Analyte	Units																		
Aroclor 1016	mg/kg	<14.0	<0.0537	<0.0540	<2.22	<0.235	<0.232	<0.208	<102	<201	<0.0583	<0.213	<0.194	<0.230	<0.197	<10.8	<0.211	<0.215	<0.197
Aroclor 1221	mg/kg	<14.0	<0.0537	<0.0540	<2.22	<0.235	<0.232	<0.208	<102	<201	<0.0583	<0.213	<0.194	<0.230	<0.197	<10.8	<0.211	<0.215	<0.197
Aroclor 1232	mg/kg	<14.0	<0.0537	<0.0540	<2.22	<0.235	<0.232	<0.208	<102	<201	<0.0583	<0.213	<0.194	<0.230	<0.197	<10.8	<0.211	<0.215	<0.197
Aroclor 1242	mg/kg	<14.0	<0.0537	<0.0540	<2.22	<0.235	<0.232	<0.208	<102	<201	<0.0583	<0.213	<0.194	<0.230	<0.197	<10.8	<0.211	<0.215	<0.197
Aroclor 1248	mg/kg	236.00	<0.0537	<0.0540	43.60	0.86	3.79	0.70	1920.00	2520.00	<0.0583	16.30	29.30	1.51	6.21	183.00	1.63	2.00	<0.197
Aroclor 1254	mg/kg	<14.0	2.36	3.19	<2.22	2.44	2.46	2.37	<102	<201	9.12	15.80	<0.194	2.39	9.51	<10.8	<0.211	<0.215	0.51
Aroclor 1260	mg/kg	<14.0	0.31	0.40	<2.22	<0.235	<0.232	<0.208	<102	<201	<0.0583	<0.213	<0.194	<0.230	<0.197	<10.8	<0.211	<0.215	<0.197
Aroclor 1262	mg/kg	<14.0	<0.0537	<0.0540	<2.22	<0.235	<0.232	<0.208	<102	<201	<0.0583	<0.213	<0.194	<0.230	<0.197	<10.8	<0.211	<0.215	<0.197
Aroclor 1268	mg/kg	<14.0	<0.0537	<0.0540	<2.22	<0.235	<0.232	<0.208	<102	<201	<0.0583	<0.213	<0.194	<0.230	<0.197	<10.8	<0.211	<0.215	<0.197
Total PCBs	mg/kg	236.00	2.67	3.59	43.60	3.30	6.25	3.07	1920.00	2520.00	9.12	32.10	29.30	3.90	15.72	183.00	1.63	2.00	0.51

Bold values exceed RIDEM Residential Direct Exposure Criteria and Industrial/Commercial Direct Exposure Criteria

Table 1: Soil Verification Data - Sidewall Sample Results
Safety-Kleen Systems, Inc.
167 Mill Street, Cranston, RI

Sample Date		6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/17/2011	7/15/2011	6/17/2011	6/17/2011	6/17/2011	6/17/2011	6/20/2011	6/20/2011	6/20/2011	6/20/2011
Sample Identification		SW-17	SW-18	SW-19	Dup-SW-19	SW-20	SW-21	SW-22	SW-23	SW-24	SW-25	SW-25A	SW-26	SW-27	SW-28	SW-29	SW-30	Dup-SW-30	SW-31	SW-32
Analyte	Units																			
Aroclor 1016	mg/kg	<0.201	<0.196	<0.213	<0.211	<0.227	<0.209	<0.227	<0.213	<0.215	<4.72	<4.72	<25.8	<0.214	<4.23	<4.44	<0.227	<0.228	<0.221	<0.222
Aroclor 1221	mg/kg	<0.201	<0.196	<0.213	<0.211	<0.227	<0.209	<0.227	<0.213	<0.215	<4.72	<4.72	<25.8	<0.214	<4.23	<4.44	<0.227	<0.228	<0.221	<0.222
Aroclor 1232	mg/kg	<0.201	<0.196	<0.213	<0.211	<0.227	<0.209	<0.227	<0.213	<0.215	<4.72	<4.72	<25.8	<0.214	<4.23	<4.44	<0.227	<0.228	<0.221	<0.222
Aroclor 1242	mg/kg	<0.201	<0.196	<0.213	<0.211	<0.227	<0.209	<0.227	<0.213	<0.215	<4.72	<4.72	<25.8	<0.214	<4.23	<4.44	<0.227	<0.228	<0.221	<0.222
Aroclor 1248	mg/kg	1.54	1.42	<0.213	<0.211	2.44	<0.209	3.49	7.30	1.48	70.80	56.10	468.00	10.20	80.60	47.10	<0.227	<0.228	<0.221	26.50
Aroclor 1254	mg/kg	2.83	3.07	<0.213	<0.211	<0.227	1.24	<0.227	13.20	6.25	<4.72	56.80	<25.8	17.00	<4.23	78.90	<0.227	<0.228	<0.221	<0.222
Aroclor 1260	mg/kg	<0.201	<0.196	<0.213	<0.211	<0.227	<0.209	<0.227	<0.213	<0.215	<4.72	<4.72	<25.8	<0.214	<4.23	<4.44	<0.227	<0.228	<0.221	<0.222
Aroclor 1262	mg/kg	<0.201	<0.196	<0.213	<0.211	<0.227	<0.209	<0.227	<0.213	<0.215	<4.72	<4.72	<25.8	<0.214	<4.23	<4.44	<0.227	<0.228	<0.221	<0.222
Aroclor 1268	mg/kg	<0.201	<0.196	<0.213	<0.211	<0.227	<0.209	<0.227	<0.213	<0.215	<4.72	<4.72	<25.8	<0.214	<4.23	<4.44	<0.227	<0.228	<0.221	<0.222
Total PCBs	mg/kg	4.37	4.49	<0.213	<0.211	2.44	1.24	3.49	20.50	7.73	70.80	112.90	468.00	27.20	80.60	126.00	<0.227	<0.228	<0.221	26.50

Table 1: Soil Verification Data - Sidewall Sample Results
Safety-Kleen Systems, Inc.
167 Mill Street, Cranston, RI

Sample Date		7/15/2011	6/21/2011	6/21/2011	6/21/2011	6/21/2011	6/21/2011	6/21/2011	6/21/2011	7/15/2011	6/21/2011	6/21/2011	7/15/2011	6/21/2011	6/21/2011	6/21/2011	7/12/2011	6/21/2011	7/12/2011	6/21/2011
Sample Identification		SW-32A	SW-33	SW-34	SW-35	SW-36	SW-37	SW-38	SW-39	SW-39A	SW-40	SW-41	SW-41A	SW-42	SW-43	SW-44	SW-44A	SW-45	SW-45A	SW-46
Analyte	Units																			
Aroclor 1016	mg/kg	<0.204	<0.194	<0.194	<0.199	<0.203	<0.208	<0.220	<0.244	<0.230	<0.226	<0.235	<0.233	<0.236	<0.213	<0.215	<0.200	<19.5	<0.229	<0.225
Aroclor 1221	mg/kg	<0.204	<0.194	<0.194	<0.199	<0.203	<0.208	<0.220	<0.244	<0.230	<0.226	<0.235	<0.233	<0.236	<0.213	<0.215	<0.200	<19.5	<0.229	<0.225
Aroclor 1232	mg/kg	<0.204	<0.194	<0.194	<0.199	<0.203	<0.208	<0.220	<0.244	<0.230	<0.226	<0.235	<0.233	<0.236	<0.213	<0.215	<0.200	<19.5	<0.229	<0.225
Aroclor 1242	mg/kg	<0.204	<0.194	<0.194	<0.199	<0.203	<0.208	<0.220	<0.244	<0.230	<0.226	<0.235	<0.233	<0.236	<0.213	<0.215	<0.200	<19.5	<0.229	<0.225
Aroclor 1248	mg/kg	1.03	<0.194	<0.194	2.73	<0.203	<0.208	2.30	9.19	<0.230	12.80	21.00	23.60	3.68	<0.213	2.27	1.00	110.00	<0.229	9.63
Aroclor 1254	mg/kg	<0.204	0.29	2.06	6.21	1.39	3.88	6.69	15.90	1.74	18.10	26.10	25.00	10.30	<0.213	7.75	<0.200	<19.5	<0.229	18.30
Aroclor 1260	mg/kg	<0.204	<0.194	<0.194	<0.199	<0.203	<0.208	<0.220	<0.244	0.36	<0.226	<0.235	<0.233	<0.236	<0.213	<0.215	<0.200	<19.5	<0.229	<0.225
Aroclor 1262	mg/kg	<0.204	<0.194	<0.194	<0.199	<0.203	<0.208	<0.220	<0.244	<0.230	<0.226	<0.235	<0.233	<0.236	<0.213	<0.215	<0.200	<19.5	<0.229	<0.225
Aroclor 1268	mg/kg	<0.204	<0.194	<0.194	<0.199	<0.203	<0.208	<0.220	<0.244	<0.230	<0.226	<0.235	<0.233	<0.236	<0.213	<0.215	<0.200	<19.5	<0.229	<0.225
Total PCBs	mg/kg	1.03	0.29	2.06	8.94	1.39	3.88	8.99	25.09	2.10	30.90	47.10	48.60	13.98	<0.213	10.02	1.00	110.00	<0.229	27.93

Bold values exceed RIDEM Residential Direct Exposure Criteria and Industrial/Commercial Direct Exposure Criteria

Table 1: Soil Verification Data - Sidewall Sample Results
Safety-Kleen Systems, Inc.
167 Mill Street, Cranston, RI

Sample Date		7/12/2011	6/21/2011	6/21/2011	6/21/2011	6/21/2011	6/21/2011	7/12/2011	7/12/2011	7/12/2011	7/12/2011	7/12/2011	7/15/2011	7/27/2011	7/15/2011	7/27/2011	7/15/2011	7/26/2011	8/5/2011	8/5/2011
Sample Identification		SW-46A	SW-47	SW-48	SW-49	Dup-SW-49	SW-50	SW-51	SW-52	SW-53	SW-54	SW-55	SW-56	SW-56A	SW-57	SW-57A	SW-58	SW-59	SW-59A	SW-59B
Analyte	Units																			
Aroclor 1016	mg/kg	<0.193	<0.205	<0.222	<0.225	<2.18	<0.220	<0.230	<0.204	<0.202	<0.255	<0.233	<0.240	<0.201	<0.245	<0.225	<0.250	<0.224	<0.0515	<0.0543
Aroclor 1221	mg/kg	<0.193	<0.205	<0.222	<0.225	<2.18	<0.220	<0.230	<0.204	<0.202	<0.255	<0.233	<0.240	<0.201	<0.245	<0.225	<0.250	<0.224	<0.0515	<0.0543
Aroclor 1232	mg/kg	<0.193	<0.205	<0.222	<0.225	<2.18	<0.220	<0.230	<0.204	<0.202	<0.255	<0.233	<0.240	<0.201	<0.245	<0.225	<0.250	<0.224	<0.0515	<0.0543
Aroclor 1242	mg/kg	<0.193	<0.205	<0.222	<0.225	<2.18	<0.220	<0.230	<0.204	<0.202	<0.255	<0.233	<0.240	<0.201	<0.245	<0.225	<0.250	<0.224	<0.0515	<0.0543
Aroclor 1248	mg/kg	<0.193	<0.205	<0.222	<0.225	<2.18	1.78	1.97	<0.204	<0.202	<0.255	<0.233	9.57	1.84	17.30	<0.225	<0.250	5.91	<0.0515	<0.0543
Aroclor 1254	mg/kg	<0.193	2.76	2.94	2.23	<2.18	3.24	<0.230	6.45	7.30	1.46	4.33	10.60	2.62	16.60	<0.225	7.81	13.20	0.56	0.54
Aroclor 1260	mg/kg	<0.193	<0.205	<0.222	<0.225	<2.18	<0.220	0.43	1.07	6.22	0.68	1.03	<0.240	<0.201	<0.245	<0.225	1.55	<0.224	<0.0515	<0.0543
Aroclor 1262	mg/kg	<0.193	<0.205	<0.222	<0.225	<2.18	<0.220	<0.230	<0.204	<0.202	<0.255	<0.233	<0.240	<0.201	<0.245	<0.225	<0.250	<0.224	<0.0515	<0.0543
Aroclor 1268	mg/kg	<0.193	<0.205	<0.222	<0.225	<2.18	<0.220	<0.230	<0.204	<0.202	<0.255	<0.233	<0.240	<0.201	<0.245	<0.225	<0.250	<0.224	<0.0515	<0.0543
Total PCBs	mg/kg	<0.193	2.76	2.94	2.23	<2.18	5.02	2.40	7.52	13.52	2.14	5.36	20.17	4.46	33.90	<0.225	9.36	19.11	0.56	0.54

Bold values exceed RIDEM Residential Direct Exposure Criteria and Industrial/Commercial Direct Exposure Criteria

Table 2: Soil Verification Data – Excavation Bottom Results

Table 2: Soil Verification Data - Excavation Bottom Results
Safety-Kleen Systems, Inc.
167 Mill Street, Cranston, RI

Sample Date		6/8/2011	6/8/2011	6/21/2011	6/21/2011	6/8/2011	6/8/2011	6/8/2011	6/8/2011	6/8/2011	6/8/2011	6/8/2011	6/8/2011	6/8/2011	6/8/2011	6/9/2011	6/9/2011	6/9/2011
Sample Identification		VB-1	VB-2	VB-2B	Dup-VB-2B	VB-3	VB-4	VB-5	VB-6	VB-7	VB-8	VB-9	VB-10	VB-11	VB-12	VB-13	VB-14	VB-15
Analyte	Units																	
Aroclor 1016	mg/kg	<0.213	<2.22	<0.196	<0.211	<0.221	<0.221	<0.521	<0.237	<0.245	<0.243	<0.265	<0.222	<0.226	<0.226	<0.207	<0.218	<0.189
Aroclor 1221	mg/kg	<0.213	<2.22	<0.196	<0.211	<0.221	<0.221	<0.521	<0.237	<0.245	<0.243	<0.265	<0.222	<0.226	<0.226	<0.207	<0.218	<0.189
Aroclor 1232	mg/kg	<0.213	<2.22	<0.196	<0.211	<0.221	<0.221	<0.521	<0.237	<0.245	<0.243	<0.265	<0.222	<0.226	<0.226	<0.207	<0.218	<0.189
Aroclor 1242	mg/kg	<0.213	<2.22	<0.196	<0.211	<0.221	<0.221	<0.521	<0.237	<0.245	<0.243	<0.265	<0.222	<0.226	<0.226	<0.207	<0.218	<0.189
Aroclor 1248	mg/kg	0.62	23.30	<0.196	<0.211	0.34	0.30	<0.521	2.27	0.56	1.08	1.44	<0.222	1.70	1.24	2.48	2.55	8.13
Aroclor 1254	mg/kg	0.87	<2.22	<0.196	<0.211	0.73	0.85	0.61	4.00	1.47	2.57	<0.265	<0.222	2.99	1.80	<0.207	3.86	<0.189
Aroclor 1260	mg/kg	<0.213	<2.22	<0.196	<0.211	<0.221	<0.221	<0.521	<0.237	<0.245	<0.243	<0.265	<0.222	<0.226	<0.226	<0.207	<0.218	<0.189
Aroclor 1262	mg/kg	<0.213	<2.22	<0.196	<0.211	<0.221	<0.221	<0.521	<0.237	<0.245	<0.243	<0.265	<0.222	<0.226	<0.226	<0.207	<0.218	<0.189
Aroclor 1268	mg/kg	<0.213	<2.22	<0.196	<0.211	<0.221	<0.221	<0.521	<0.237	<0.245	<0.243	<0.265	<0.222	<0.226	<0.226	<0.207	<0.218	<0.189
Total PCBs	mg/kg	1.49	23.30	<0.196	<0.211	1.07	1.15	0.61	6.27	2.03	3.65	1.44	<0.222	4.69	3.04	2.48	6.41	8.13

Bold values exceed RIDEM Residential Direct Exposure Criteria and Industrial/Commercial Direct Exposure Criteria

Table 2: Soil Verification Data - Excavation Bottom Results
Safety-Kleen Systems, Inc.
167 Mill Street, Cranston, RI

Sample Date		6/9/2011	6/20/2011	6/9/2011	6/20/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/9/2011	6/17/2011	6/17/2011	6/17/2011	6/20/2011	6/21/2011	6/21/2011	6/21/2011	6/21/2011
Sample Identification		VB-16	VB-16B	VB-17	VB-17B	VB-18	VB-19	VB-20	VB-21	VB-22	VB-23	VB-24	VB-25	VB-26	VB-27	VB-28	VB-29	VB-30	VB-31	VB-32
Analyte	Units																			
Aroclor 1016	mg/kg	<43.1	<0.211	<10.6	<0.220	<0.207	<0.220	<0.211	<0.211	<0.206	<0.211	<0.207	<0.248	<0.219	<0.239	<0.247	<0.222	<0.196	<0.202	<0.204
Aroclor 1221	mg/kg	<43.1	<0.211	<10.6	<0.220	<0.207	<0.220	<0.211	<0.211	<0.206	<0.211	<0.207	<0.248	<0.219	<0.239	<0.247	<0.222	<0.196	<0.202	<0.204
Aroclor 1232	mg/kg	<43.1	<0.211	<10.6	<0.220	<0.207	<0.220	<0.211	<0.211	<0.206	<0.211	<0.207	<0.248	<0.219	<0.239	<0.247	<0.222	<0.196	<0.202	<0.204
Aroclor 1242	mg/kg	<43.1	<0.211	<10.6	<0.220	<0.207	<0.220	<0.211	<0.211	<0.206	<0.211	<0.207	<0.248	<0.219	<0.239	<0.247	<0.222	<0.196	<0.202	<0.204
Aroclor 1248	mg/kg	689.00	0.33	177.00	0.47	0.65	<0.220	<0.211	<0.211	<0.206	<0.211	1.17	0.66	2.30	0.67	6.30	<0.222	0.21	<0.202	<0.204
Aroclor 1254	mg/kg	<43.1	<0.211	<10.6	<0.220	<0.207	<0.220	0.27	<0.211	<0.206	1.09	<0.207	0.49	2.19	0.65	<0.247	<0.222	<0.196	<0.202	0.45
Aroclor 1260	mg/kg	<43.1	<0.211	<10.6	<0.220	<0.207	<0.220	<0.211	0.41	<0.206	<0.211	<0.207	<0.248	<0.219	<0.239	<0.247	<0.222	<0.196	<0.202	<0.204
Aroclor 1262	mg/kg	<43.1	<0.211	<10.6	<0.220	<0.207	<0.220	<0.211	<0.211	<0.206	<0.211	<0.207	<0.248	<0.219	<0.239	<0.247	<0.222	<0.196	<0.202	<0.204
Aroclor 1268	mg/kg	<43.1	<0.211	<10.6	<0.220	<0.207	<0.220	<0.211	<0.211	<0.206	<0.211	<0.207	<0.248	<0.219	<0.239	<0.247	<0.222	<0.196	<0.202	<0.204
Total PCBs	mg/kg	689.00	0.33	177.00	0.47	0.65	<0.220	0.27	0.41	<0.206	1.09	1.17	1.16	4.49	1.33	6.30	<0.222	0.21	<0.202	0.45

Bold values exceed RIDEM Residential Direct Exposure Criteria and Industrial/Commercial Direct Exposure Criteria

Table 2: Soil Verification Data - Excavation Bottom Results
Safety-Kleen Systems, Inc.
167 Mill Street, Cranston, RI

Sample Date		6/21/2011	6/21/2011	6/21/2011	6/21/2011	6/21/2011	6/21/2011	6/21/2011	6/21/2011	6/21/2011	7/12/2011	7/26/2011	8/5/2011	7/12/2011	7/26/2011	7/12/2011	7/26/2011	7/12/2011	7/12/2011
Sample Identification		VB-33	VB-34	VB-35	VB-36	VB-37	VB-38	VB-39	VB-40	VB-41	VB-42	VB-42A	VB-42B	VB-43	VB-43A	VB-44	VB-44A	VB-45	VB-46
Analyte	Units																		
Aroclor 1016	mg/kg	<0.218	<0.208	<0.229	<0.189	<0.219	<0.211	<0.204	<0.215	<0.211	<0.236	<0.311	<0.0658	<0.233	<0.233	<0.237	<0.219	<0.270	<0.276
Aroclor 1221	mg/kg	<0.218	<0.208	<0.229	<0.189	<0.219	<0.211	<0.204	<0.215	<0.211	<0.236	<0.311	<0.0658	<0.233	<0.233	<0.237	<0.219	<0.270	<0.276
Aroclor 1232	mg/kg	<0.218	<0.208	<0.229	<0.189	<0.219	<0.211	<0.204	<0.215	<0.211	<0.236	<0.311	<0.0658	<0.233	<0.233	<0.237	<0.219	<0.270	<0.276
Aroclor 1242	mg/kg	<0.218	<0.208	<0.229	<0.189	<0.219	<0.211	<0.204	<0.215	<0.211	<0.236	<0.311	<0.0658	<0.233	<0.233	<0.237	<0.219	<0.270	<0.276
Aroclor 1248	mg/kg	<0.218	0.78	2.05	0.26	2.12	<0.211	<0.204	<0.215	3.35	<0.236	10.20	7.75	<0.233	1.49	12.80	<0.219	<0.270	10.20
Aroclor 1254	mg/kg	0.37	1.34	3.20	0.34	3.41	0.64	0.28	<0.215	6.64	9.82	<0.311	3.20	3.61	<0.233	<0.237	0.51	1.82	<0.276
Aroclor 1260	mg/kg	<0.218	<0.208	<0.229	<0.189	<0.219	<0.211	<0.204	<0.215	<0.211	7.20	0.75	<0.0658	6.66	1.96	2.03	<0.219	2.83	1.44
Aroclor 1262	mg/kg	<0.218	<0.208	<0.229	<0.189	<0.219	<0.211	<0.204	<0.215	<0.211	<0.236	<0.311	<0.0658	<0.233	<0.233	<0.237	<0.219	<0.270	<0.276
Aroclor 1268	mg/kg	<0.218	<0.208	<0.229	<0.189	<0.219	<0.211	<0.204	<0.215	<0.211	<0.236	<0.311	<0.0658	<0.233	<0.233	<0.237	<0.219	<0.270	<0.276
Total PCBs	mg/kg	0.37	2.12	5.25	0.60	5.53	0.64	0.28	<0.215	9.99	17.02	10.95	10.95	10.27	3.45	14.83	0.51	4.65	11.64

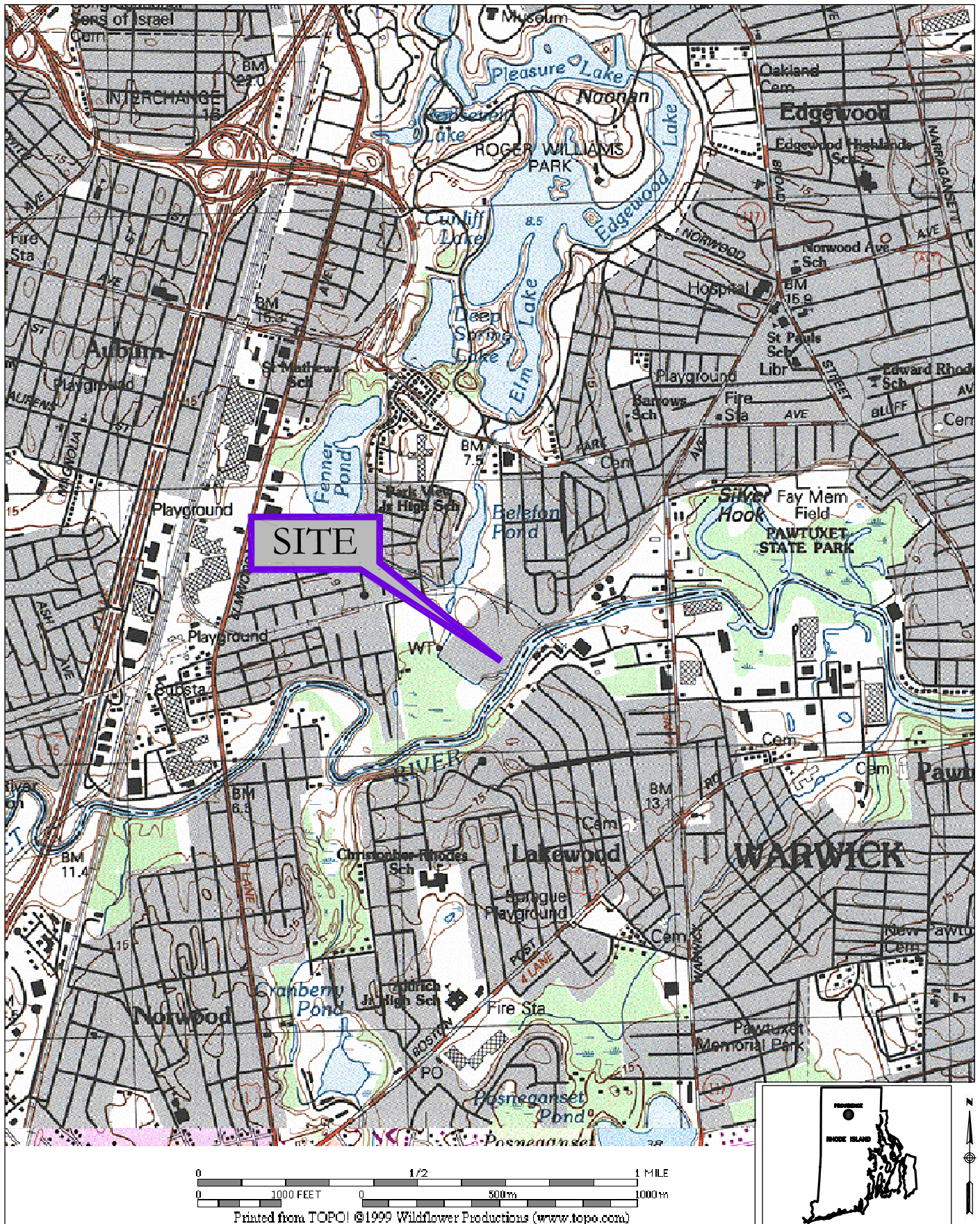
Bold values exceed RIDEM Residential Direct Exposure Criteria and Industrial/Commercial Direct Exposure Criteria

Table 2: Soil Verification Data - Excavation Bottom Results
Safety-Kleen Systems, Inc.
167 Mill Street, Cranston, RI

Sample Date		7/12/2011	7/26/2011	7/15/2011	7/15/2011	7/15/2011	7/15/2011	7/26/2011	8/5/2011	7/27/2011	7/27/2011	7/27/2011	7/27/2011
Sample Identification		Dup-VB-46	VB-46A	VB-47	VB-48	VB-49	VB-50	VB-51	VB-51A	VB-52	VB-53	VB-54	VB-55
Analyte	Units												
Aroclor 1016	mg/kg	<0.263	<0.224	<0.211	<0.244	<0.239	<0.219	<0.233	<0.0602	<0.225	<0.224	<0.255	<0.236
Aroclor 1221	mg/kg	<0.263	<0.224	<0.211	<0.244	<0.239	<0.219	<0.233	<0.0602	<0.225	<0.224	<0.255	<0.236
Aroclor 1232	mg/kg	<0.263	<0.224	<0.211	<0.244	<0.239	<0.219	<0.233	<0.0602	<0.225	<0.224	<0.255	<0.236
Aroclor 1242	mg/kg	<0.263	<0.224	<0.211	<0.244	<0.239	<0.219	<0.233	<0.0602	<0.225	<0.224	<0.255	<0.236
Aroclor 1248	mg/kg	11.60	0.79	1.35	<0.244	<0.239	<0.219	3.13	<0.0602	1.21	<0.224	4.07	<0.236
Aroclor 1254	mg/kg	<0.263	1.06	1.72	1.84	2.85	0.42	7.56	1.03	1.48	0.23	<0.255	<0.236
Aroclor 1260	mg/kg	1.67	<0.224	<0.211	<0.244	<0.239	<0.219	<0.233	<0.0602	<0.225	<0.224	0.49	<0.236
Aroclor 1262	mg/kg	<0.263	<0.224	<0.211	<0.244	<0.239	<0.219	<0.233	<0.0602	<0.225	<0.224	<0.255	<0.236
Aroclor 1268	mg/kg	<0.263	<0.224	<0.211	<0.244	<0.239	<0.219	<0.233	<0.0602	<0.225	<0.224	<0.255	<0.236
Total PCBs	mg/kg	13.27	1.85	3.07	1.84	2.85	0.42	10.69	1.03	2.69	0.23	4.56	<0.236

Bold values exceed RIDEM Residential Direct Exposure Criteria and Industrial/Commercial Direct Exposure Criteria

Figure 1: Site Locus



1520 HIGHLAND AVENUE
CHESHIRE, CONNECTICUT 06410
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COMMITMENT & INTEGRITY DRIVE RESULTS

SITE LOCUS

DESIGNED BY:
DRAWN BY: SH

CHECKED BY: MP
219303 RI FIG 1.dwg

167 MILL STREET
CRANSTON, RHODE ISLAND

JOB NO: 219303
DATE: NOV. 2007
SCALE: AS NOTED

FIGURE 1

Figure 2: Soil Excavation Plan and Verification Sample Locations – Round #1

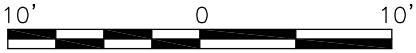
VERIFICATION SAMPLE RESULTS TABLE
ROUND # 1

Sample Location	Total PCBs mg/kg	Sample Location	Total PCBs mg/kg
SW-1	236.00	VB-1	1.49
SW-2	2.67	VB-2	23.30
SW-3	3.59	VB-3	1.07
SW-4	43.60	VB-4	1.15
SW-5	3.30	VB-5	0.61
SW-6	6.25	VB-6	6.27
SW-7	3.07	VB-7	2.03
SW-8	1,920.00	VB-8	3.65
SW-9	9.12	VB-9	1.44
SW-10	32.10	VB-10	<0.22
SW-11	29.30	VB-11	4.69
SW-12	3.90	VB-12	3.04
SW-13	15.72	VB-13	2.48
SW-14	183.00	VB-14	6.41
SW-15	1.63	VB-15	8.13
SW-16	0.51	VB-16	689.00
SW-17	4.37	VB-17	177.00
SW-18	4.49	VB-18	0.65
SW-19	<0.21	VB-19	<0.22
SW-20	2.44	VB-20	0.27
SW-21	1.24	VB-21	0.41
SW-22	3.49	VB-22	<0.21
SW-23	20.50	VB-23	1.09
SW-24	7.73	VB-24	1.17

BUILDING M

CONC.
PAD

EXISTING TREE (TYP)



BAR SCALE
1" = 10'
CHECK GRAPHIC SCALE BEFORE USING

ROUND # 1 - JUNE 8 - JUNE 9, 2011

LEGEND:

SOIL EXCAVATION DEPTH 0-0.5'

SOIL EXCAVATION DEPTH 0-1.0'

SOIL EXCAVATION DEPTH 0-1.5'

SOIL EXCAVATION DEPTH 0-2.0'

SOIL REMOVAL LOCATION WHERE PCBs ≥ 50ppm

BOTTOM VERIFICATION SAMPLE LOCATION

SIDEWALL VERIFICATION SAMPLE LOCATION

SOIL EXCAVATION PLAN AND
VERIFICATION SAMPLE LOCATIONS
ROUND # 1

167 MILL STREET

CRANSTON, RHODE ISLAND

JOB NO: 219303.29
DATE: NOV. 2011
SCALE: 1"=10'

Figure 2

98 Cedar Street, Suite 100
Providence, Rhode Island
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WOODARD
& CURRAN

COMMITMENT & INTEGRITY DRIVE RESULTS

DESIGNED BY: JLB

CHECKED BY: JLB

DRAWN BY: GA

219303 EXCAV-FIGS-Round # 1.dwg

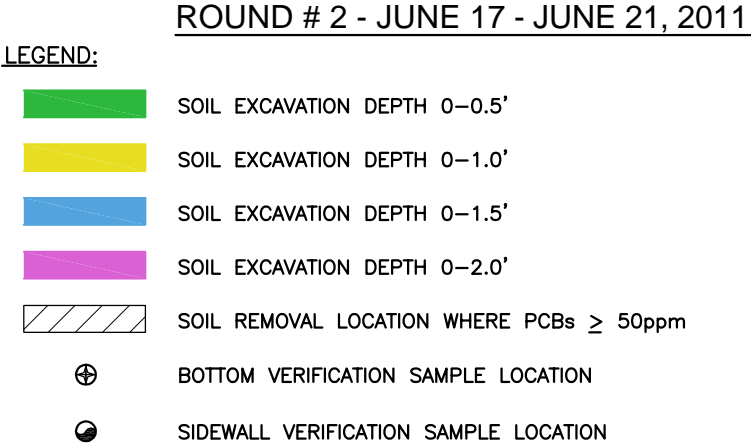
Figure 3: Soil Excavation Plan and Verification Sample Locations – Round #2

VERIFICATION SAMPLE RESULTS TABLE
ROUND # 2

Sample Location	Total PCBs mg/kg	Sample Location	Total PCBs mg/kg
SW-25	70.80	VB-2B	<0.22
SW-26	468.00	VB-16B	0.33
SW-27	27.20	VB-17B	0.47
SW-28	80.60	VB-25	1.16
SW-29	126.00	VB-26	4.49
SW-30	<0.23	VB-27	1.33
SW-31	<0.22	VB-28	6.30
SW-32	26.50	VB-29	<0.22
SW-33	0.29	VB-30	0.21
SW-34	2.06	VB-31	<0.20
SW-35	8.94	VB-32	0.45
SW-36	1.39	VB-33	0.37
SW-37	3.88	VB-34	2.12
SW-38	8.99	VB-35	5.25
SW-39	25.09	VB-36	0.60
SW-40	30.90	VB-37	5.53
SW-41	47.10	VB-38	0.64
SW-42	13.98	VB-39	0.28
SW-43	<0.21	VB-40	<0.22
SW-44	10.02	VB-41	9.99
SW-45	110.00		
SW-46	27.93		
SW-47	2.76		
SW-48	2.94		
SW-49	2.23		
SW-50	5.02		

BUILDING M

CONC.
PAD



SOIL EXCAVATION PLAN AND
VERIFICATION SAMPLE LOCATIONS
ROUND # 2

167 MILL STREET

CRANSTON, RHODE ISLAND

JOB NO: 219303.29
DATE: NOV. 2011
SCALE: 1"=10'

Figure 3

Figure 4: Soil Excavation Plan and Verification Sample Locations – Round #3

VERIFICATION SAMPLE RESULTS TABLE
ROUND # 3

Sample Location	Total PCBs mg/kg	Sample Location	Total PCBs mg/kg
SW-25A	112.90	VB-42	17.02
SW-39A	2.10	VB-43	10.27
SW-41A	48.60	VB-44	14.83
SW-44A	1.00	VB-45	4.65
SW-45A	<0.23	VB-46	11.64
SW-46A	<0.20	VB-47	3.07
SW-51	2.40	VB-48	1.84
SW-52	7.52	VB-49	2.85
SW-53	13.52	VB-50	0.42
SW-54	2.14		
SW-55	5.36		
SW-56	20.17		
SW-57	33.90		
SW-58	9.36		

BUILDING M

CONC.
PAD

ROUND # 3 - JULY 12 - JULY 15, 2011

LEGEND:

SOIL EXCAVATION DEPTH 0-0.5'

SOIL EXCAVATION DEPTH 0-1.0'

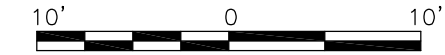
SOIL EXCAVATION DEPTH 0-1.5'

SOIL EXCAVATION DEPTH 0-2.0'

SOIL REMOVAL LOCATION WHERE PCBs ≥ 50ppm

BOTTOM VERIFICATION SAMPLE LOCATION

SIDEWALL VERIFICATION SAMPLE LOCATION



BAR SCALE
1" = 10'
CHECK GRAPHIC SCALE BEFORE USING

SOIL EXCAVATION PLAN AND
VERIFICATION SAMPLE LOCATIONS
ROUND # 3

167 MILL STREET

CRANSTON, RHODE ISLAND

JOB NO: 219303.29
DATE: NOV. 2011
SCALE: 1"=10'

Figure 4

95 Cedar Street, Suite 100
Providence, Rhode Island
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WOODARD
& CURRAN

COMMITMENT & INTEGRITY DRIVE RESULTS

DESIGNED BY: JLB

CHECKED BY: JLB

DRAWN BY: GA

219303 EXCAV-FIGS-Round # 3.dwg

Figure 5: Soil Excavation Plan and Verification Sample Locations – Round #4

VERIFICATION SAMPLE RESULTS TABLE
ROUND # 4

Sample Location	Total PCBs mg/kg	Sample Location	Total PCBs mg/kg
SW-56A	4.46	VB-42A	10.95
SW-57A	<0.23	VB-43A	3.45
SW-59	19.11	VB-44A	0.51
		VB-46A	1.85
		VB-51	10.69
		VB-52	2.69
		VB-53	0.23
		VB-54	4.56
		VB-55	<0.24



ROUND # 4 - JULY 26 - JULY 27, 2011

LEGEND:

- SOIL EXCAVATION DEPTH 0-0.5'
- SOIL EXCAVATION DEPTH 0-1.0'
- SOIL EXCAVATION DEPTH 0-1.5'
- SOIL EXCAVATION DEPTH 0-2.0'
- SOIL REMOVAL LOCATION WHERE PCBs \geq 50ppm
- + BOTTOM VERIFICATION SAMPLE LOCATION
- SIDEWALL VERIFICATION SAMPLE LOCATION

SOIL EXCAVATION PLAN AND
VERIFICATION SAMPLE LOCATIONS
ROUND # 4

167 MILL STREET

CRANSTON, RHODE ISLAND

95 Cedar Street, Suite 100
Providence, Rhode Island
800.985.7897 | www.woodardcurran.com



COMMITMENT & INTEGRITY DRIVE RESULTS

DESIGNED BY: JLB
CHECKED BY: JLB
DRAWN BY: GA
219303 EXCAV-FIGS-Round # 4.dwg

JOB NO: 219303.29
DATE: NOV. 2011
SCALE: 1"=10'

Figure 5

10' 0 10'
BAR SCALE
1" = 10'
CHECK GRAPHIC SCALE BEFORE USING

Figure 6: Soil Excavation Plan and Verification Sample Locations – Round #5

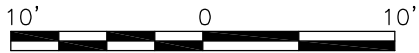
VERIFICATION SAMPLE RESULTS TABLE
ROUND # 5

Sample Location	Total PCBs mg/kg	Sample Location	Total PCBs mg/kg
SW-59A	0.56	VB-42B	10.95
SW-59B	0.54	VB-51A	1.03

BUILDING M

CONC.
PAD

EXISTING TREE (TYP)



BAR SCALE
1" = 10'
CHECK GRAPHIC SCALE BEFORE USING

- LEGEND:
- SOIL EXCAVATION DEPTH 0-0.5'
 - SOIL EXCAVATION DEPTH 0-1.0'
 - SOIL EXCAVATION DEPTH 0-1.5'
 - SOIL EXCAVATION DEPTH 0-2.0'
 - SOIL REMOVAL LOCATION WHERE PCBs \geq 50ppm
 - BOTTOM VERIFICATION SAMPLE LOCATION
 - SIDEWALL VERIFICATION SAMPLE LOCATION

ROUND # 5 - AUGUST 5, 2011

SOIL EXCAVATION PLAN AND
VERIFICATION SAMPLE LOCATIONS
ROUND # 5

167 MILL STREET
CRANSTON, RHODE ISLAND

JOB NO: 219303.29
DATE: NOV. 2011
SCALE: 1"=10'

Figure 6

WOODARD
& CURRAN

95 Cedar Street, Suite 100
Providence, Rhode Island
800.985.7897 | www.woodardcurran.com

COMMITMENT & INTEGRITY DRIVE RESULTS

DESIGNED BY: JLB
DRAWN BY: GA
CHECKED BY: JLB
219303 EXCAV-FIGS-Round # 5.dwg

APPENDIX A: EPA APPROVAL



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

5 POST OFFICE SQUARE, SUITE 100
BOSTON, MASSACHUSETTS 02109-3912

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

JAN 20 2011

Mr. Stephen Fleming
Senior Remediation Manager
Safety-Kleen Systems, Inc.
11923 Tramway Drive
Cincinnati, Ohio 45241

Re: PCB Cleanup and Disposal Approval under §§ 761.61(a) and (c)
Safety-Kleen Systems, Inc. Cranston Facility
Cranston, Rhode Island

Dear Mr. Fleming:

This is in response to the Safety-Kleen Systems, Inc. (Safety-Kleen) Notification¹ to address PCB-contaminated soils on the property located at 167 Mill Street, Cranston, Rhode Island (the Site). The Site contains PCB-contaminated soils that exceed the allowable PCB levels for unrestricted use under the federal PCB regulations at 40 CFR § 761.61(a). Safety-Kleen has requested an approval to clean up and dispose of the PCB-contaminated soils located at the Site under the PCB self-implementing cleanup and disposal option (SIP) at 40 CFR § 761.61(a).

Safety-Kleen has determined that the Site meets the definition for a *low occupancy area* under § 761.3 which would allow less than or equal to (≤) 25 parts per million PCBs to remain on-site. The Site is also regulated for cleanup under the Rhode Island Department of Environmental Management (RIDEM) remediation regulations.

To meet both the federal and state requirements, Safety-Kleen is proposing the following PCB cleanup and disposal activities under § 761.61(a) and the RIDEM remediation regulations:

- Remove all PCB-contaminated soils and debris with PCB concentrations greater than (>) 10 parts per million (ppm);

¹Information was submitted on behalf of Safety-Kleen Systems, Inc by Woodard & Curran. The information was provided to satisfy the notification requirement under 40 CFR § 761.61(a). Information was provided dated November, 2010 (SIP), December 20, 2010 (Response to Comments), December, 2010 (Revised SIP), and January 6, 2011 (e-mail response to comments). These submittals will be referred to as the "Notification."

- Dispose of soils with PCB concentrations > 10 ppm but < 50 ppm at a State permitted disposal facility in accordance with § 761.61(a)(5)(i)(B)(2)(ii);
- Dispose of soils with PCB concentrations greater than or equal to (\geq 50 ppm at a TSCA-approved disposal facility or a RCRA hazardous waste landfill in accordance with §§ 761.61(a)(5)(i)(B)(2)(iii);
- Record an environmental land use restriction (ELUR) to document that PCBs at \geq 1 ppm remain at the Site.

With the exception of the required characterization sampling frequency, your proposed plan meets the requirements under § 761.61(a). Given the Site history, the characterization sampling conducted at the Site, and the proposed additional sampling which will be conducted during and following the removal of PCB-contaminated soils, EPA finds that the characterization sampling is adequate for purposes of segregation of the PCB-contaminated wastes for off-site disposal and that this activity will create no unreasonable risk to public health or the environment. EPA may approve the characterization sampling for disposal under § 761.61(c).

Safety-Kleen's may proceed with its PCB cleanup and disposal under 40 CFR §§ 761.61(a) and (c); its Notification; and this Approval, subject to the conditions of Attachment 1. Please be aware that this Approval does not release Safety-Kleen from any applicable requirements of federal, state or local law, including those requirements necessary to address pollutant mobility and direct exposure criteria; and, to the cleanup of other [non-PCB] contaminants. EPA encourages Safety-Kleen to continue to work with RIDEM to insure it has all approvals necessary for this project.

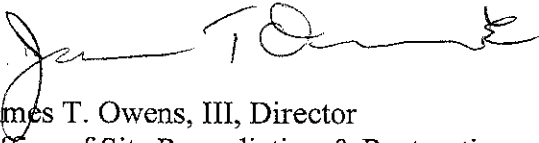
This Approval only addresses cleanup and disposal of the *PCB remediation waste* identified in the Notification. In the event that Safety-Kleen identifies other PCB-contaminated wastes subject to cleanup and disposal under the PCB regulations, Safety-Kleen will be required to notify EPA and cleanup the PCB-contaminated wastes in accordance with 40 CFR Part 761 (see Approval Condition 1.)

Questions and correspondence regarding this Approval should be directed to:

Katherine A. Woodward, PE, Project Manager
United States Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code: OSRR07-2
Boston, Massachusetts 02109-3912
Telephone: (617) 918-1353
Facsimile: (617) 918-0527

EPA shall not consider this project complete until it has received all submittals required under this Approval. Please be aware that upon EPA receipt and review of the submittals, EPA may request any additional information necessary to establish that the work has been completed in accordance with 40 CFR Part 761, the Notification, and this Approval.

Sincerely,



James T. Owens, III, Director
Office of Site Remediation & Restoration

Attachment 1

cc: Janelle Bonn, Woodard & Curran
Joan Taylor, Office of Waste Management, RIDEM
Kelly Owens, Office of Waste Management, RIDEM
Frank Battaglia, EPA
File

ATTACHMENT 1:

**PCB CLEANUP AND DISPOSAL APPROVAL CONDITIONS
SAFETY-KLEEN SYSTEMS, INC.
CRANSTON FACILITY
CRANSTON, RHODE ISLAND**

GENERAL CONDITIONS

1. This Approval is granted under the authority of Section 6(e) of the Toxic Substances Control Act (TSCA), 15 U.S.C. § 2605(e), and the PCB regulations at 40 CFR Part 761, and applies solely to *PCB remediation waste* located at the Site as identified in the Notification.
 - a. In the event that Safety-Kleen Systems, Inc (Safety-Kleen) identifies other PCB-contaminated wastes subject to cleanup and disposal under the PCB regulations, Safety-Kleen will be required to notify EPA and clean up the PCB-contaminated wastes in accordance with 40 CFR Part 761.
 - b. Safety-Kleen may submit a separate plan to address the PCB contamination or may modify the Notification to incorporate cleanup of the PCBs under this Approval in accordance with Condition 15.
2. Safety-Kleen shall conduct on-site activities in accordance with the conditions of this Approval and with the Notification.
3. In the event that the cleanup plan described in the Notification differs from the conditions specified in this Approval, the conditions of this Approval shall govern.
4. The terms and abbreviations used herein shall have the meanings as defined in 40 CFR § 761.3 unless otherwise defined within this Approval.
5. Safety-Kleen must comply with all applicable federal, state and local regulations in the storage, handling, and disposal of all PCB wastes, including PCBs, PCB Items and decontamination wastes generated under this Approval. In the event of a new spill during response actions, Safety-Kleen shall contact EPA within 24 hours for direction on sampling and cleanup requirements.
6. Safety-Kleen is responsible for the actions of all officers, employees, agents, contractors, subcontractors, and others who are involved in activities conducted under this Approval. If at any time Safety-Kleen has or receives information indicating that Safety-Kleen or any other person has failed, or may have failed, to comply with any provision of this Approval, it must report the information to EPA in writing within 24 hours of having or receiving the information.

7. This Approval does not constitute a determination by EPA that the transporters or disposal facilities selected by Safety-Kleen are authorized to conduct the activities set forth in the Notification. Safety-Kleen is responsible for ensuring that its selected transporters and disposal facilities are authorized to conduct these activities in accordance with all applicable federal, state and local statutes and regulations.
8. This Approval does not: 1) waive or compromise EPA's enforcement and regulatory authority; 2) release Safety-Kleen from compliance with any applicable requirements of federal, state or local law; or 3) release Safety-Kleen from liability for, or otherwise resolve, any violations of federal, state or local law.

NOTIFICATION AND CERTIFICATION CONDITIONS

9. This Approval may be revoked if the EPA does not receive written notification from Safety-Kleen of its acceptance of the conditions of this Approval within 10 business days of receipt.
10. Safety-Kleen shall notify EPA in writing of the scheduled date of commencement of onsite activities at least 1 business day prior to conducting any work under this Approval.
11. Prior to initiating onsite work under this Approval, Safety-Kleen shall submit the following information:
 - a. A certification signed by its selected remediation contractor, stating that the contractor has read and understands the Notification, and agrees to abide by the conditions specified in this Approval;
 - b. A contractor work plan, prepared and submitted by the selected contractor(s), detailing the procedures that will be employed for removal of PCB-contaminated wastes and for air monitoring during removal activities. This work plan should also include information on the decontamination and verification sampling of soil, waste storage, handling, and disposal for each waste stream type and for equipment decontamination; and,
 - c. A certification signed by the selected analytical laboratory, stating that the laboratory has read and understands the sample preparation, extraction, analytical and quality assurance requirements specified in the Notification and in this Approval.

REMEDIAL AND DISPOSAL CONDITIONS

12. The cleanup level for bulk *PCB remediation waste* (i.e., soils) at the Site shall be in accordance with 40 CFR § 761.61(a)(4).
 - a. The cleanup level for bulk *PCB remediation waste* at the Site shall be less than or equal to (\leq) 10 ppm for soils. Samples (i.e. soils) shall be collected on a bulk basis (i.e. mg/Kg).
 - i) Following excavation of the greater than or equal to (\geq) 50 ppm PCB-contaminated soils, sampling shall be conducted in accordance with Subpart O to confirm that all \geq 50 ppm PCB-contaminated soils have been removed prior to removal of the $<$ 50 ppm PCB-contaminated soil. Composite sampling may not be conducted to confirm that the \geq 50 ppm PCB-contaminated soil has been removed, and;
 - ii) Following excavation of $>$ 10 ppm PCB-contaminated soils, sampling shall be conducted in accordance with Subpart O to confirm that all $>$ 10 ppm PCB-contaminated soils have been removed.
 - b. Bulk *PCB remediation waste* with \geq 50 ppm shall be disposed of in accordance with § 761.61(a)(5)(i)(B)(2)(iii).
 - c. Bulk *PCB remediation waste* with greater than ($>$) 10 ppm but less than ($<$) 50 ppm shall be disposed of in accordance with § 761.61(a)(5)(i)(B)(2)(ii) or § 761.61(a)(5)(i)(B)(2)(iii).
 - d. Chemical extraction for PCBs shall be conducted using Methods 3500B/3540C of SW-846 for solid matrices and Method 3500B/3510C of SW-846 for aqueous matrices; and, chemical analysis for PCBs shall be conducted using Method 8082 of SW-846, unless another extraction or analytical method(s) is validated according to Subpart Q.
13. All PCB waste (regardless of concentration) generated as a result of the activities described in the Notification, excluding any decontaminated materials, shall be marked in accordance with § 761.40; stored in a manner prescribed in § 761.65; and, disposed of in accordance with 40 CFR § 761.61(a)(5), unless otherwise specified below:
 - a. Decontamination wastes and residues shall be disposed of in accordance with 40 CFR § 761.79(g).
 - b. Moveable equipment, tools, and sampling equipment shall be decontaminated in accordance with either 40 CFR § 761.79(b)(3)(i)(A), § 761.79(b)(3)(ii)(A), or § 761.79(c)(2).

- c. PCB-contaminated water generated during decontamination or dewatering shall be decontaminated in accordance with 40 CFR § 761.79(b)(1) or disposed of under § 761.60.

INSPECTION, MODIFICATION AND REVOCATION CONDITIONS

- 14. Safety-Kleen shall allow any authorized representative of the Administrator of the EPA to inspect the Site, to inspect records, and to take samples as may be necessary to determine compliance with the PCB regulations and this Approval. Any refusal by Safety-Kleen to allow such an inspection (as authorized by Section 11 of TSCA) shall be grounds for revocation of this Approval.
- 15. Any proposed modification(s) in the plan, specifications, or information in the Notification must be submitted to EPA no less than 14 calendar days prior to the proposed implementation of the change. Such proposed modifications will be subject to the procedures of 40 CFR § 761.61(a)(3)(ii).
- 16. Any departure from the conditions of this Approval without prior, written authorization from the EPA may result in the revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.
- 17. Any misrepresentation or omission of any material fact in the Notification or in any records or reports may result in the EPA's revocation, suspension and/or modification of the Approval, in addition to any other legal or equitable relief or remedy the EPA may choose to pursue.
- 18. Approval for these activities may be revoked, modified or otherwise altered: if EPA finds a violation of the conditions of this Approval or of 40 CFR Part 761, including EPA's PCB Spill Cleanup Policy, or other applicable rules and regulations; or, if EPA finds that these activities present an unreasonable risk to public health or the environment.

RECORDKEEPING AND REPORTING CONDITIONS

- 19. Safety-Kleen shall prepare and maintain all records and documents required by 40 CFR Part 761, including but not limited to the records required under Subparts J and K. A written record of the cleanup and the analytical sampling shall be established and maintained by Safety-Kleen in one centralized location until such time as EPA authorizes, in writing, an alternative disposition for such records. All records shall be made available for inspection by authorized representatives of EPA.

20. Safety-Kleen shall submit a final report to EPA within 60 days of completion of the activities authorized under this Approval. At a minimum, this final report shall include: a short narrative of the cleanup and disposal activities; characterization and confirmation sampling analytical results (as applicable); copies of the accompanying analytical chains of custody; field and laboratory quality control/quality assurance checks; an estimate of the quantity of PCB waste disposed of and the size of the remediated area(s); copies of manifests and bills of lading; and copies of certificates of disposal or similar certifications issued by the disposer.
21. Required submittals shall be mailed to:

Katherine A Woodward, PE, Project Manager
United States Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code: OSRR07-2
Boston, Massachusetts 02109-3912
22. No record, report or communication required under this Approval shall qualify as a self-audit or voluntary disclosure under EPA audit, self disclosure or penalty policies.

END OF ATTACHMENT 1

APPENDIX B: LABORATORY DATA – VERIFICATION SAMPLES (ON CD)



ESS Laboratory

Division of Thielsch Engineering, Inc.

BAL Laboratory

*The Microbiology Division
of Thielsch Engineering, Inc.*



CERTIFICATE OF ANALYSIS

Janelle Bonn
Woodard & Curran - RI
95 Cedar Street, Suite 100
Providence, RI 02903

RE: SK Cranston (219303)
ESS Laboratory Work Order Number: 1106094

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director



Digitally signed by Laurel Stoddard
Date: 2011.06.10 16:16:15 -04'00'

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.



ESS Laboratory
Division of Thielsch Engineering, Inc.

BAL Laboratory
*The Microbiology Division
of Thielsch Engineering, Inc.*



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106094

SAMPLE RECEIPT

The following samples were received on June 08, 2011 for the analyses specified on the enclosed Chain of Custody Record.

<u>Lab Number</u>	<u>SampleName</u>	<u>Matrix</u>	<u>Analysis</u>
1106094-01	SW-1	Soil	8082
1106094-02	SW-2	Soil	8082
1106094-03	SW-3	Soil	8082
1106094-04	SW-9	Soil	8082



ESS Laboratory
Division of Thielsch Engineering, Inc.

BAL Laboratory
*The Microbiology Division
of Thielsch Engineering, Inc.*



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106094

PROJECT NARRATIVE

8082 Polychlorinated Biphenyls (PCB)

1106094-01 Elevated Method Reporting Limits due to sample matrix (EL).

1106094-01 Surrogate recovery(ies) diluted below the MRL (SD).

Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



ESS Laboratory
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BAL Laboratory

The Microbiology Division
of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-1

Date Sampled: 06/08/11 15:00

Percent Solids: 92

Initial Volume: 19.4

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106094

ESS Laboratory Sample ID: 1106094-01

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/8/11 18:10

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (14.0)	10	250	06/09/11 20:56		CF10817
Aroclor 1221	ND (14.0)	10	250	06/09/11 20:56		CF10817
Aroclor 1232	ND (14.0)	10	250	06/09/11 20:56		CF10817
Aroclor 1242	ND (14.0)	10	250	06/09/11 20:56		CF10817
Aroclor 1248	236 (14.0)	10	250	06/09/11 20:56		CF10817
Aroclor 1254	ND (14.0)	10	250	06/09/11 20:56		CF10817
Aroclor 1260	ND (14.0)	10	250	06/09/11 20:56		CF10817
Aroclor 1262	ND (14.0)	10	250	06/09/11 20:56		CF10817
Aroclor 1268	ND (14.0)	10	250	06/09/11 20:56		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



ESS Laboratory

Division of Thielsch Engineering, Inc.

BAL Laboratory

The Microbiology Division
of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-2

Date Sampled: 06/08/11 15:05

Percent Solids: 94

Initial Volume: 19.8

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106094

ESS Laboratory Sample ID: 1106094-02

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/8/11 18:10

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0537)	10	1	06/09/11 20:18		CF10817
Aroclor 1221	ND (0.0537)	10	1	06/09/11 20:18		CF10817
Aroclor 1232	ND (0.0537)	10	1	06/09/11 20:18		CF10817
Aroclor 1242	ND (0.0537)	10	1	06/09/11 20:18		CF10817
Aroclor 1248	ND (0.0537)	10	1	06/09/11 20:18		CF10817
Aroclor 1254	2.36 (0.269)	10	5	06/09/11 21:34		CF10817
Aroclor 1260	0.313 (0.0537)	10	1	06/09/11 20:18		CF10817
Aroclor 1262	ND (0.0537)	10	1	06/09/11 20:18		CF10817
Aroclor 1268	ND (0.0537)	10	1	06/09/11 20:18		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	124 %		30-150
Surrogate: Decachlorobiphenyl [2C]	110 %		30-150
Surrogate: Tetrachloro-m-xylene	111 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	109 %		30-150



ESS Laboratory
Division of Thielsch Engineering, Inc.

BAL Laboratory

The Microbiology Division
of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-3
Date Sampled: 06/08/11 15:10
Percent Solids: 94
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106094
ESS Laboratory Sample ID: 1106094-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/8/11 18:10

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.0540)	10	1	06/09/11 19:41		CF10817
Aroclor 1221	ND (0.0540)	10	1	06/09/11 19:41		CF10817
Aroclor 1232	ND (0.0540)	10	1	06/09/11 19:41		CF10817
Aroclor 1242	ND (0.0540)	10	1	06/09/11 19:41		CF10817
Aroclor 1248	ND (0.0540)	10	1	06/09/11 19:41		CF10817
Aroclor 1254	3.19 (0.270)	10	5	06/09/11 22:11		CF10817
Aroclor 1260	0.402 (0.0540)	10	1	06/09/11 19:41		CF10817
Aroclor 1262	ND (0.0540)	10	1	06/09/11 19:41		CF10817
Aroclor 1268	ND (0.0540)	10	1	06/09/11 19:41		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	119 %		30-150
Surrogate: Decachlorobiphenyl [2C]	121 %		30-150
Surrogate: Tetrachloro-m-xylene	105 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	111 %		30-150



ESS Laboratory

Division of Thielsch Engineering, Inc.

BAL Laboratory

The Microbiology Division
of Thielsch Engineering, Inc.



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-9

Date Sampled: 06/08/11 16:20

Percent Solids: 88

Initial Volume: 19.5

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106094

ESS Laboratory Sample ID: 1106094-04

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/8/11 18:10

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.0583)	10	1	06/09/11 19:03		CF10817
Aroclor 1221	ND (0.0583)	10	1	06/09/11 19:03		CF10817
Aroclor 1232	ND (0.0583)	10	1	06/09/11 19:03		CF10817
Aroclor 1242	ND (0.0583)	10	1	06/09/11 19:03		CF10817
Aroclor 1248	ND (0.0583)	10	1	06/09/11 19:03		CF10817
Aroclor 1254	9.12 (0.583)	10	10	06/10/11 12:20		CF10817
Aroclor 1260	ND (0.0583)	10	1	06/09/11 19:03		CF10817
Aroclor 1262	ND (0.0583)	10	1	06/09/11 19:03		CF10817
Aroclor 1268	ND (0.0583)	10	1	06/09/11 19:03		CF10817

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	109 %		30-150
Surrogate: Decachlorobiphenyl [2C]	102 %		30-150
Surrogate: Tetrachloro-m-xylene	120 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	104 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106094

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082 Polychlorinated Biphenyls (PCB)										
Batch CF10817 - 3540										
Blank										
Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1221	ND	0.0500	mg/kg wet							
Aroclor 1232	ND	0.0500	mg/kg wet							
Aroclor 1242	ND	0.0500	mg/kg wet							
Aroclor 1248	ND	0.0500	mg/kg wet							
Aroclor 1254	ND	0.0500	mg/kg wet							
Aroclor 1260	ND	0.0500	mg/kg wet							
Aroclor 1262	ND	0.0500	mg/kg wet							
Aroclor 1268	ND	0.0500	mg/kg wet							
Surrogate: Decachlorobiphenyl	0.0320		mg/kg wet	0.02500		128	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0298		mg/kg wet	0.02500		119	30-150			
Surrogate: Tetrachloro-m-xylene	0.0283		mg/kg wet	0.02500		113	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0295		mg/kg wet	0.02500		118	30-150			
LCS										
Aroclor 1016	0.627	0.0500	mg/kg wet	0.5000		125	40-140			
Aroclor 1260	0.666	0.0500	mg/kg wet	0.5000		133	40-140			
Surrogate: Decachlorobiphenyl	0.0338		mg/kg wet	0.02500		135	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0310		mg/kg wet	0.02500		124	30-150			
Surrogate: Tetrachloro-m-xylene	0.0297		mg/kg wet	0.02500		119	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0292		mg/kg wet	0.02500		117	30-150			
LCS Dup										
Aroclor 1016	0.637	0.0500	mg/kg wet	0.5000		127	40-140	2	50	
Aroclor 1260	0.670	0.0500	mg/kg wet	0.5000		134	40-140	0.6	50	
Surrogate: Decachlorobiphenyl	0.0347		mg/kg wet	0.02500		139	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0318		mg/kg wet	0.02500		127	30-150			
Surrogate: Tetrachloro-m-xylene	0.0304		mg/kg wet	0.02500		122	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0300		mg/kg wet	0.02500		120	30-150			



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106094

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106094

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/labs/waterlabs-instate.php>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/out_state.pdf

Maine Potable and Non Potable Water: RI0002

http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/labcert/labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://www4.egov.nh.gov/des/nhelap/namesearch.asp>

New York (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301

http://www.mdc.state.md.us/assets/document/WSP_labs-2009apr20.pdf

South Carolina Volatile Organic Compounds in Potable Water: 78003

New Jersey Potable (VOA) and Non Potable Water (RCRA), Solids and Hazardous Waste: RI002

<http://www.nj.gov/dep/oqa/certlabs.htm>

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

Sample and Cooler Receipt Checklist

Client: Woodard & Curran

Client Project ID: _____

Shipped/Delivered Via: Client

ESS Project ID: 11060094

Date Project Due: 6/10/11

Days For Project: 2 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?

*** No**

Air No.:

2. Were Custody Seals Present?

No

3. Were Custody Seals Intact?

N/A

4. Is Radiation count < 100 CPM?

Yes

5. Is a cooler present?

Yes

Cooler Temp: **4.3**

Iced With: **Ice**

6. Was COC included with samples?

Yes

7. Was COC signed and dated by client?

Yes

8. Does the COC match the sample

Yes

9. Is COC complete and correct?

Yes

10. Are the samples properly preserved?

Yes

11. Proper sample containers used?

Yes

12. Any air bubbles in the VOA vials?

N/A

13. Holding times exceeded?

No

14. Sufficient sample volumes?

Yes

15. Any Subcontracting needed?

No

16. Are ESS labels on correct containers? **Yes** **No**

17. Were samples received intact? **Yes** **No**

ESS Sample IDs: _____

Sub Lab: _____

Analysis: _____

TAT: _____

18. Was there need to call project manager to discuss status? If yes, please explain.

Who was called?: _____

By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP

Completed By: mk

Date/Time: 6/8/11

Reviewed By: _____

Date/Time: 6/8/11

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 1 of 2

Turn Time: Standard Other: 24 Hrs
If faster than 5 days, prior approval by laboratory is required #
State where samples were collected from:
MA RI CT NH NJ NY ME Other
Is this project for any of the following: USACE Other
MA-MCP Navy

Reporting Limits
ESS LAB PROJECT ID: 1106094
Electronic Deliverable Yes No
Format: Excel Access PDF Other

Co. Name		Project #		Project Name (20 Char. or less)		Type of Containers		Number of Containers		Circle and/or Write Required Analysis	
ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	8260	8260	8260	8260
01	6/8/11	1500	X	S	SW-1	1	1	8260	8260	8260	8260
02	6/8/11	1505	X	S	SW-2	1	1	8260	8260	8260	8260
03	6/8/11	1510	X	S	SW-3	1	1	8260	8260	8260	8260
—	6/8/11	1520	X	S	SW-4	1	1	8260	8260	8260	8260
—	6/8/11	1525	X	S	SW-6	1	1	8260	8260	8260	8260
—	6/8/11	1610	X	S	SW-5	1	1	8260	8260	8260	8260
—	6/8/11	1615	X	S	SW-7	1	1	8260	8260	8260	8260
04	6/8/11	1620	X	S	SW-9	1	1	8260	8260	8260	8260
—	6/8/11	1623	X	S	VB-1	1	1	8260	8260	8260	8260
—	6/8/11	1625	X	S	VB-2	1	1	8260	8260	8260	8260

Container Type: P-Poly G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes P-Filters

Cooler Present: ☒ Yes ☐ No
Seals Intact: ☐ Yes ☒ No
Cooler Temp: 4.3 ice

Preservation Code: 1- NP, 2- HCl, 3- H₂SO₄, 4- HNO₃, 5- NaOH, 6- MeOH, 7- Ascorbic Acid, 8- ZnAc₂, 9-
Sampled by: SEAN DRISCOLL
Comments: 8082 with 3540 EXTRACTION

Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
<u>[Signature]</u>	<u>6/8/11 1715</u>	<u>[Signature]</u>	<u>6/8/11 1715</u>
<u>[Signature]</u>	<u>6/8/11 1715</u>	<u>[Signature]</u>	<u>6/8/11 1715</u>



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CERTIFICATE OF ANALYSIS

Janelle Bonn
Woodard & Curran - RI
95 Cedar Street, Suite 100
Providence, RI 02903

RE: SK Cranston (219303)

ESS Laboratory Work Order Number: 1106095

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director



Digitally signed by Laurel Stoddard
Date: 2011.06.14 16:33:06 -04'00'

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106095

SAMPLE RECEIPT

The following samples were received on June 08, 2011 for the analyses specified on the enclosed Chain of Custody Record.

<u>Lab Number</u>	<u>SampleName</u>	<u>Matrix</u>	<u>Analysis</u>
1106095-01	SW-4	Soil	8082
1106095-02	SW-6	Soil	8082
1106095-03	SW-5	Soil	8082
1106095-04	SW-7	Soil	8082
1106095-05	VB-1	Soil	8082
1106095-06	VB-2	Soil	8082
1106095-07	VB-3	Soil	8082
1106095-08	VB-4	Soil	8082
1106095-09	VB-5	Soil	8082
1106095-10	VB-6	Soil	8082
1106095-11	VB-7	Soil	8082
1106095-12	VB-8	Soil	8082
1106095-13	VB-9	Soil	8082
1106095-14	VB-10	Soil	8082
1106095-15	VB-11	Soil	8082
1106095-16	VB-12	Soil	8082



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106095

PROJECT NARRATIVE

8082 Polychlorinated Biphenyls (PCB)

- 1106095-01 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
- 1106095-02 Surrogate recovery(ies) below lower control limit (S-).
Tetrachloro-m-xylene (% @ 30-150%)
- 1106095-05 Percent difference between primary and confirmation results exceeds 40% (P).
Aroclor 1254
- 1106095-06 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)
- 1106095-11 Surrogate recovery(ies) above upper control limit (S+).
Decachlorobiphenyl [2C] (167% @ 30-150%)
- 1106095-15 Percent difference between primary and confirmation results exceeds 40% (P).
Aroclor 1254
- 1106095-16 Percent difference between primary and confirmation results exceeds 40% (P).
Aroclor 1248

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-4
Date Sampled: 06/08/11 15:20
Percent Solids: 88
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106095
ESS Laboratory Sample ID: 1106095-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/9/11 15:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (2.22)	10	40	06/13/11 10:52		CF10817
Aroclor 1221	ND (2.22)	10	40	06/13/11 10:52		CF10817
Aroclor 1232	ND (2.22)	10	40	06/13/11 10:52		CF10817
Aroclor 1242	ND (2.22)	10	40	06/13/11 10:52		CF10817
Aroclor 1248	43.6 (2.22)	10	40	06/13/11 10:52		CF10817
Aroclor 1254	ND (2.22)	10	40	06/13/11 10:52		CF10817
Aroclor 1260	ND (2.22)	10	40	06/13/11 10:52		CF10817
Aroclor 1262	ND (2.22)	10	40	06/13/11 10:52		CF10817
Aroclor 1268	ND (2.22)	10	40	06/13/11 10:52		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-6

Date Sampled: 06/08/11 15:25

Percent Solids: 88

Initial Volume: 19.6

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106095

ESS Laboratory Sample ID: 1106095-02

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/9/11 15:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.232)	10	4	06/10/11 11:42		CF10817
Aroclor 1221	ND (0.232)	10	4	06/10/11 11:42		CF10817
Aroclor 1232	ND (0.232)	10	4	06/10/11 11:42		CF10817
Aroclor 1242	ND (0.232)	10	4	06/10/11 11:42		CF10817
Aroclor 1248	3.79 (0.232)	10	4	06/10/11 11:42		CF10817
Aroclor 1254	2.46 (0.232)	10	4	06/10/11 11:42		CF10817
Aroclor 1260	ND (0.232)	10	4	06/10/11 11:42		CF10817
Aroclor 1262	ND (0.232)	10	4	06/10/11 11:42		CF10817
Aroclor 1268	ND (0.232)	10	4	06/10/11 11:42		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	108 %		30-150
Surrogate: Decachlorobiphenyl [2C]	111 %		30-150
Surrogate: Tetrachloro-m-xylene	%	S-	30-150
Surrogate: Tetrachloro-m-xylene [2C]	106 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-5
Date Sampled: 06/08/11 16:10
Percent Solids: 87
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106095
ESS Laboratory Sample ID: 1106095-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/9/11 15:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.235)	10	4	06/10/11 22:59		CF10817
Aroclor 1221	ND (0.235)	10	4	06/10/11 22:59		CF10817
Aroclor 1232	ND (0.235)	10	4	06/10/11 22:59		CF10817
Aroclor 1242	ND (0.235)	10	4	06/10/11 22:59		CF10817
Aroclor 1248	0.859 (0.235)	10	4	06/10/11 22:59		CF10817
Aroclor 1254	2.44 (0.235)	10	4	06/10/11 22:59		CF10817
Aroclor 1260	ND (0.235)	10	4	06/10/11 22:59		CF10817
Aroclor 1262	ND (0.235)	10	4	06/10/11 22:59		CF10817
Aroclor 1268	ND (0.235)	10	4	06/10/11 22:59		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	104 %		30-150
Surrogate: Decachlorobiphenyl [2C]	117 %		30-150
Surrogate: Tetrachloro-m-xylene	73 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	90 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-7

Date Sampled: 06/08/11 16:15

Percent Solids: 94

Initial Volume: 20.5

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106095

ESS Laboratory Sample ID: 1106095-04

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/9/11 15:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.208)	10	4	06/10/11 12:57		CF10817
Aroclor 1221	ND (0.208)	10	4	06/10/11 12:57		CF10817
Aroclor 1232	ND (0.208)	10	4	06/10/11 12:57		CF10817
Aroclor 1242	ND (0.208)	10	4	06/10/11 12:57		CF10817
Aroclor 1248	0.698 (0.208)	10	4	06/10/11 12:57		CF10817
Aroclor 1254	2.37 (0.208)	10	4	06/10/11 12:57		CF10817
Aroclor 1260	ND (0.208)	10	4	06/10/11 12:57		CF10817
Aroclor 1262	ND (0.208)	10	4	06/10/11 12:57		CF10817
Aroclor 1268	ND (0.208)	10	4	06/10/11 12:57		CF10817

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	83 %		30-150
Surrogate: Decachlorobiphenyl [2C]	83 %		30-150
Surrogate: Tetrachloro-m-xylene	65 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	67 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-1
Date Sampled: 06/08/11 16:23
Percent Solids: 95
Initial Volume: 19.8
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106095
ESS Laboratory Sample ID: 1106095-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/9/11 15:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.213)	10	4	06/10/11 13:35		CF10817
Aroclor 1221	ND (0.213)	10	4	06/10/11 13:35		CF10817
Aroclor 1232	ND (0.213)	10	4	06/10/11 13:35		CF10817
Aroclor 1242	ND (0.213)	10	4	06/10/11 13:35		CF10817
Aroclor 1248	0.615 (0.213)	10	4	06/10/11 13:35		CF10817
Aroclor 1254	P 0.873 (0.213)	10	4	06/10/11 13:35		CF10817
Aroclor 1260	ND (0.213)	10	4	06/10/11 13:35		CF10817
Aroclor 1262	ND (0.213)	10	4	06/10/11 13:35		CF10817
Aroclor 1268	ND (0.213)	10	4	06/10/11 13:35		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	127 %		30-150
Surrogate: Decachlorobiphenyl [2C]	121 %		30-150
Surrogate: Tetrachloro-m-xylene	84 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	96 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-2

Date Sampled: 06/08/11 16:25

Percent Solids: 92

Initial Volume: 19.6

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106095

ESS Laboratory Sample ID: 1106095-06

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/9/11 15:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (2.22)	10	40	06/13/11 11:11		CF10817
Aroclor 1221	ND (2.22)	10	40	06/13/11 11:11		CF10817
Aroclor 1232	ND (2.22)	10	40	06/13/11 11:11		CF10817
Aroclor 1242	ND (2.22)	10	40	06/13/11 11:11		CF10817
Aroclor 1248	23.3 (2.22)	10	40	06/13/11 11:11		CF10817
Aroclor 1254	ND (2.22)	10	40	06/13/11 11:11		CF10817
Aroclor 1260	ND (2.22)	10	40	06/13/11 11:11		CF10817
Aroclor 1262	ND (2.22)	10	40	06/13/11 11:11		CF10817
Aroclor 1268	ND (2.22)	10	40	06/13/11 11:11		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-3
Date Sampled: 06/08/11 16:28
Percent Solids: 91
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106095
ESS Laboratory Sample ID: 1106095-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/9/11 15:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.221)	10	4	06/10/11 14:50		CF10817
Aroclor 1221	ND (0.221)	10	4	06/10/11 14:50		CF10817
Aroclor 1232	ND (0.221)	10	4	06/10/11 14:50		CF10817
Aroclor 1242	ND (0.221)	10	4	06/10/11 14:50		CF10817
Aroclor 1248	0.339 (0.221)	10	4	06/10/11 14:50		CF10817
Aroclor 1254	0.729 (0.221)	10	4	06/10/11 14:50		CF10817
Aroclor 1260	ND (0.221)	10	4	06/10/11 14:50		CF10817
Aroclor 1262	ND (0.221)	10	4	06/10/11 14:50		CF10817
Aroclor 1268	ND (0.221)	10	4	06/10/11 14:50		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	103 %		30-150
Surrogate: Decachlorobiphenyl [2C]	100 %		30-150
Surrogate: Tetrachloro-m-xylene	68 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	72 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-4

Date Sampled: 06/08/11 16:30

Percent Solids: 90

Initial Volume: 20.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106095

ESS Laboratory Sample ID: 1106095-08

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/9/11 15:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.221)	10	4	06/10/11 15:28		CF10817
Aroclor 1221	ND (0.221)	10	4	06/10/11 15:28		CF10817
Aroclor 1232	ND (0.221)	10	4	06/10/11 15:28		CF10817
Aroclor 1242	ND (0.221)	10	4	06/10/11 15:28		CF10817
Aroclor 1248	0.300 (0.221)	10	4	06/10/11 15:28		CF10817
Aroclor 1254	0.851 (0.221)	10	4	06/10/11 15:28		CF10817
Aroclor 1260	ND (0.221)	10	4	06/10/11 15:28		CF10817
Aroclor 1262	ND (0.221)	10	4	06/10/11 15:28		CF10817
Aroclor 1268	ND (0.221)	10	4	06/10/11 15:28		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	114 %		30-150
Surrogate: Decachlorobiphenyl [2C]	108 %		30-150
Surrogate: Tetrachloro-m-xylene	89 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	97 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-5
Date Sampled: 06/08/11 16:33
Percent Solids: 39
Initial Volume: 19.7
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106095
ESS Laboratory Sample ID: 1106095-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/9/11 15:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.521)	10	4	06/10/11 16:05		CF10817
Aroclor 1221	ND (0.521)	10	4	06/10/11 16:05		CF10817
Aroclor 1232	ND (0.521)	10	4	06/10/11 16:05		CF10817
Aroclor 1242	ND (0.521)	10	4	06/10/11 16:05		CF10817
Aroclor 1248	ND (0.521)	10	4	06/10/11 16:05		CF10817
Aroclor 1254	0.612 (0.521)	10	4	06/10/11 16:05		CF10817
Aroclor 1260	ND (0.521)	10	4	06/10/11 16:05		CF10817
Aroclor 1262	ND (0.521)	10	4	06/10/11 16:05		CF10817
Aroclor 1268	ND (0.521)	10	4	06/10/11 16:05		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	120 %		30-150
Surrogate: Decachlorobiphenyl [2C]	119 %		30-150
Surrogate: Tetrachloro-m-xylene	100 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	94 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-6

Date Sampled: 06/08/11 16:35

Percent Solids: 83

Initial Volume: 20.3

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106095

ESS Laboratory Sample ID: 1106095-10

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/9/11 15:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.237)	10	4	06/10/11 16:43		CF10817
Aroclor 1221	ND (0.237)	10	4	06/10/11 16:43		CF10817
Aroclor 1232	ND (0.237)	10	4	06/10/11 16:43		CF10817
Aroclor 1242	ND (0.237)	10	4	06/10/11 16:43		CF10817
Aroclor 1248	2.27 (0.237)	10	4	06/10/11 16:43		CF10817
Aroclor 1254	4.00 (0.237)	10	4	06/10/11 16:43		CF10817
Aroclor 1260	ND (0.237)	10	4	06/10/11 16:43		CF10817
Aroclor 1262	ND (0.237)	10	4	06/10/11 16:43		CF10817
Aroclor 1268	ND (0.237)	10	4	06/10/11 16:43		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	90 %		30-150
Surrogate: Decachlorobiphenyl [2C]	125 %		30-150
Surrogate: Tetrachloro-m-xylene	53 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	64 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-7
Date Sampled: 06/08/11 16:38
Percent Solids: 82
Initial Volume: 19.9
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106095
ESS Laboratory Sample ID: 1106095-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/9/11 15:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.245)	10	4	06/10/11 19:14		CF10817
Aroclor 1221	ND (0.245)	10	4	06/10/11 19:14		CF10817
Aroclor 1232	ND (0.245)	10	4	06/10/11 19:14		CF10817
Aroclor 1242	ND (0.245)	10	4	06/10/11 19:14		CF10817
Aroclor 1248	0.564 (0.245)	10	4	06/10/11 19:14		CF10817
Aroclor 1254	1.47 (0.245)	10	4	06/10/11 19:14		CF10817
Aroclor 1260	ND (0.245)	10	4	06/10/11 19:14		CF10817
Aroclor 1262	ND (0.245)	10	4	06/10/11 19:14		CF10817
Aroclor 1268	ND (0.245)	10	4	06/10/11 19:14		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	132 %		30-150
Surrogate: Decachlorobiphenyl [2C]	167 %	S+	30-150
Surrogate: Tetrachloro-m-xylene	76 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	79 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-8

Date Sampled: 06/08/11 16:41

Percent Solids: 84

Initial Volume: 19.6

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106095

ESS Laboratory Sample ID: 1106095-12

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/9/11 15:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.243)	10	4	06/10/11 19:51		CF10817
Aroclor 1221	ND (0.243)	10	4	06/10/11 19:51		CF10817
Aroclor 1232	ND (0.243)	10	4	06/10/11 19:51		CF10817
Aroclor 1242	ND (0.243)	10	4	06/10/11 19:51		CF10817
Aroclor 1248	1.08 (0.243)	10	4	06/10/11 19:51		CF10817
Aroclor 1254	2.57 (0.243)	10	4	06/10/11 19:51		CF10817
Aroclor 1260	ND (0.243)	10	4	06/10/11 19:51		CF10817
Aroclor 1262	ND (0.243)	10	4	06/10/11 19:51		CF10817
Aroclor 1268	ND (0.243)	10	4	06/10/11 19:51		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	80 %		30-150
Surrogate: Decachlorobiphenyl [2C]	91 %		30-150
Surrogate: Tetrachloro-m-xylene	67 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	69 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-9
Date Sampled: 06/08/11 16:44
Percent Solids: 77
Initial Volume: 19.6
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106095
ESS Laboratory Sample ID: 1106095-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/9/11 15:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.265)	10	4	06/10/11 20:29		CF10817
Aroclor 1221	ND (0.265)	10	4	06/10/11 20:29		CF10817
Aroclor 1232	ND (0.265)	10	4	06/10/11 20:29		CF10817
Aroclor 1242	ND (0.265)	10	4	06/10/11 20:29		CF10817
Aroclor 1248	1.44 (0.265)	10	4	06/10/11 20:29		CF10817
Aroclor 1254	ND (0.265)	10	4	06/10/11 20:29		CF10817
Aroclor 1260	ND (0.265)	10	4	06/10/11 20:29		CF10817
Aroclor 1262	ND (0.265)	10	4	06/10/11 20:29		CF10817
Aroclor 1268	ND (0.265)	10	4	06/10/11 20:29		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	123 %		30-150
Surrogate: Decachlorobiphenyl [2C]	113 %		30-150
Surrogate: Tetrachloro-m-xylene	67 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	77 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-10

Date Sampled: 06/08/11 16:47

Percent Solids: 90

Initial Volume: 20

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106095

ESS Laboratory Sample ID: 1106095-14

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/9/11 15:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.222)	10	4	06/10/11 21:07		CF10817
Aroclor 1221	ND (0.222)	10	4	06/10/11 21:07		CF10817
Aroclor 1232	ND (0.222)	10	4	06/10/11 21:07		CF10817
Aroclor 1242	ND (0.222)	10	4	06/10/11 21:07		CF10817
Aroclor 1248	ND (0.222)	10	4	06/10/11 21:07		CF10817
Aroclor 1254	ND (0.222)	10	4	06/10/11 21:07		CF10817
Aroclor 1260	ND (0.222)	10	4	06/10/11 21:07		CF10817
Aroclor 1262	ND (0.222)	10	4	06/10/11 21:07		CF10817
Aroclor 1268	ND (0.222)	10	4	06/10/11 21:07		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	124 %		30-150
Surrogate: Decachlorobiphenyl [2C]	119 %		30-150
Surrogate: Tetrachloro-m-xylene	94 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	90 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-11
Date Sampled: 06/08/11 16:49
Percent Solids: 87
Initial Volume: 20.3
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106095
ESS Laboratory Sample ID: 1106095-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/9/11 15:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.226)	10	4	06/10/11 21:44		CF10817
Aroclor 1221	ND (0.226)	10	4	06/10/11 21:44		CF10817
Aroclor 1232	ND (0.226)	10	4	06/10/11 21:44		CF10817
Aroclor 1242	ND (0.226)	10	4	06/10/11 21:44		CF10817
Aroclor 1248	1.70 (0.226)	10	4	06/10/11 21:44		CF10817
Aroclor 1254	P 2.99 (0.226)	10	4	06/10/11 21:44		CF10817
Aroclor 1260	ND (0.226)	10	4	06/10/11 21:44		CF10817
Aroclor 1262	ND (0.226)	10	4	06/10/11 21:44		CF10817
Aroclor 1268	ND (0.226)	10	4	06/10/11 21:44		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	104 %		30-150
Surrogate: Decachlorobiphenyl [2C]	110 %		30-150
Surrogate: Tetrachloro-m-xylene	59 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	74 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-12

Date Sampled: 06/08/11 16:53

Percent Solids: 89

Initial Volume: 19.9

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106095

ESS Laboratory Sample ID: 1106095-16

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/9/11 15:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.226)	10	4	06/10/11 22:22		CF10817
Aroclor 1221	ND (0.226)	10	4	06/10/11 22:22		CF10817
Aroclor 1232	ND (0.226)	10	4	06/10/11 22:22		CF10817
Aroclor 1242	ND (0.226)	10	4	06/10/11 22:22		CF10817
Aroclor 1248	P 1.24 (0.226)	10	4	06/10/11 22:22		CF10817
Aroclor 1254	1.80 (0.226)	10	4	06/10/11 22:22		CF10817
Aroclor 1260	ND (0.226)	10	4	06/10/11 22:22		CF10817
Aroclor 1262	ND (0.226)	10	4	06/10/11 22:22		CF10817
Aroclor 1268	ND (0.226)	10	4	06/10/11 22:22		CF10817

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	95 %		30-150
Surrogate: Decachlorobiphenyl [2C]	94 %		30-150
Surrogate: Tetrachloro-m-xylene	40 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	84 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106095

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082 Polychlorinated Biphenyls (PCB)

Batch CF10817 - 3540

Blank

Aroclor 1016	ND	0.0500	mg/kg wet
Aroclor 1221	ND	0.0500	mg/kg wet
Aroclor 1232	ND	0.0500	mg/kg wet
Aroclor 1242	ND	0.0500	mg/kg wet
Aroclor 1248	ND	0.0500	mg/kg wet
Aroclor 1254	ND	0.0500	mg/kg wet
Aroclor 1260	ND	0.0500	mg/kg wet
Aroclor 1262	ND	0.0500	mg/kg wet
Aroclor 1268	ND	0.0500	mg/kg wet

Surrogate: Decachlorobiphenyl	0.0320		mg/kg wet	0.02500	128	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0298		mg/kg wet	0.02500	119	30-150
Surrogate: Tetrachloro-m-xylene	0.0283		mg/kg wet	0.02500	113	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0295		mg/kg wet	0.02500	118	30-150

LCS

Aroclor 1016	0.627	0.0500	mg/kg wet	0.5000	125	40-140
Aroclor 1260	0.666	0.0500	mg/kg wet	0.5000	133	40-140
<hr/>						
Surrogate: Decachlorobiphenyl	0.0338		mg/kg wet	0.02500	135	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0310		mg/kg wet	0.02500	124	30-150
Surrogate: Tetrachloro-m-xylene	0.0297		mg/kg wet	0.02500	119	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0292		mg/kg wet	0.02500	117	30-150

LCS Dup

Aroclor 1016	0.637	0.0500	mg/kg wet	0.5000	127	40-140	2	50
Aroclor 1260	0.670	0.0500	mg/kg wet	0.5000	134	40-140	0.6	50
<hr/>								
Surrogate: Decachlorobiphenyl	0.0347		mg/kg wet	0.02500	139	30-150		
Surrogate: Decachlorobiphenyl [2C]	0.0318		mg/kg wet	0.02500	127	30-150		
Surrogate: Tetrachloro-m-xylene	0.0304		mg/kg wet	0.02500	122	30-150		
Surrogate: Tetrachloro-m-xylene [2C]	0.0300		mg/kg wet	0.02500	120	30-150		



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Division of Thielsch Engineering, Inc.

BAL Laboratory

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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106095

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
S+	Surrogate recovery(ies) above upper control limit (S+).
S-	Surrogate recovery(ies) below lower control limit (S-).
P	Percent difference between primary and confirmation results exceeds 40% (P).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106095

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/labs/waterlabs-instate.php>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/out_state.pdf

Maine Potable and Non Potable Water: RI0002

http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/labcert/labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://www4.egov.nh.gov/des/nhelap/namesearch.asp>

New York (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301

http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

South Carolina Volatile Organic Compounds in Potable Water: 78003

New Jersey Potable (VOA) and Non Potable Water (RCRA), Solids and Hazardous Waste: RI002

<http://www.nj.gov/dep/oqa/certlabs.htm>

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

Sample and Cooler Receipt Checklist

Client: Woodard & Curran

Client Project ID: _____

Shipped/Delivered Via: ClientESS Project ID: 11060095Date Project Due: 6/15/11

Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?

☒ No

Air No.:

2. Were Custody Seals Present?

☐ No

3. Were Custody Seals Intact?

☐ N/A

4. Is Radiation count < 100 CPM?

☐ Yes

5. Is a cooler present?

☐ YesCooler Temp: 4.3Iced With: Ice

6. Was COC included with samples?

☐ Yes

7. Was COC signed and dated by client?

☐ Yes

8. Does the COC match the sample

☐ Yes

9. Is COC complete and correct?

☐ Yes

10. Are the samples properly preserved?

☐ Yes

11. Proper sample containers used?

☐ Yes

12. Any air bubbles in the VOA vials?

☐ N/A

13. Holding times exceeded?

☐ No

14. Sufficient sample volumes?

☐ Yes

15. Any Subcontracting needed?

☐ No16. Are ESS labels on correct containers? ☒ Yes ☐ No17. Were samples received intact? ☒ Yes ☐ No

ESS Sample IDs: _____

Sub Lab: _____

Analysis: _____

TAT: _____

18. Was there need to call project manager to discuss status? If yes, please explain.

Who was called?: _____

By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	1	NP
8	Yes	4 oz Soil Jar	1	NP
9	Yes	4 oz Soil Jar	1	NP
10	Yes	4 oz Soil Jar	1	NP
11	Yes	4 oz Soil Jar	1	NP
12	Yes	4 oz Soil Jar	1	NP
13	Yes	4 oz Soil Jar	1	NP
14	Yes	4 oz Soil Jar	1	NP
15	Yes	4 oz Soil Jar	1	NP
16	Yes	4 oz Soil Jar	1	NP

Completed By: mkDate/Time: 6/8/11

Reviewed By: _____

Date/Time: 6/11/11

Reporting Limits	ESS LAB PROJECT ID 1166095
Electronic Deliverable	Yes _____ No _____
Format: Excel _____ Access _____ PDF _____ Other _____	

Co. Name		Project #		Project Name (20 Char. or less)		Circle and/or Write Required Analysis													
Contact Person		Address		State		Zip		PO#		Email Address		Type of Containers		Number of Containers		Type of Containers			
Telephone #		Fax #		Collection Time		Date		COMP		GRAB		MATRIX		Sample Identification (20 Char. or less)		Pres Code			
Woodward & Curran		Safety Kleen		RT		02903		401.273.5087		1500		6/8/11		X S		SW-1		1	
Janelle Bonn		95 Cedar St.		VT		02903		401.273.5087		1505		6/8/11		X S		SW-2		1	
Providence		401.273.1007		1510		6/8/11		X S		SW-3		1		X S		SW-4		1	
ESS LAB Sample #		401.273.5087		1520		6/8/11		X S		SW-5		1		X S		SW-6		1	
01		401.273.5087		1525		6/8/11		X S		SW-7		1		X S		SW-8		1	
02		401.273.5087		1610		6/8/11		X S		SW-9		1		X S		SW-10		1	
03		401.273.5087		1615		6/8/11		X S		VB-1		1		X S		VB-2		1	
04		401.273.5087		1620		6/8/11		X S		VB-3		1		X S		VB-4		1	
05		401.273.5087		1623		6/8/11		X S		VB-5		1		X S		VB-6		1	
06		401.273.5087		1625		6/8/11		X S		VB-7		1		X S		VB-8		1	

Container Type: P-Poly G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge W-W-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ☒ Yes ☐ No NA: ☒ ☐ Pickup

Seals Intact ☐ Yes ☒ No

Cooler Temp: 4.3 ice

Preservation Code 1-NP 2-HCl, 3-H₂SO₄, 4-HNO₃, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAcet, 9-

Sampled by: SEAN DRISCOLL

Comments: 8082 with SSAD EXTRACTION

Relinquished by (Signature)	Date/Time	Relinquished by (Signature)	Date/Time	Relinquished by (Signature)	Date/Time
<i>[Signature]</i>	6/8/11 1715	<i>[Signature]</i>	6/8/11 1715	<i>[Signature]</i>	6/8/11 1715
<i>[Signature]</i>		<i>[Signature]</i>		<i>[Signature]</i>	

1 (White) Lab Copy 2 (Yellow) Client Receipt

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 2 of 2

Turn Time: _____
If faster than 5 days, prior approval by laboratory is required # _____
State where samples were collected from: MA (R) CT NH NJ NY ME Other _____
Is this project for any of the following: USACE Other _____
MA-MCP Navy

ESS LAB PROJECT ID: 1106095
Reporting Limits: _____
Electronic Deliverable: Yes _____ No _____
Format: Excel _____ Access _____ PDF _____ Other _____

Co. Name	Project #	Project Name (20 Char or less)	Address	City	State	Zip	PO#	Email Address	Sample Identification (20 Char or less)	Pres Code	Type of Containers	Number of Containers	Circle and/or Write Required Analysis
Woodward & Curran	401 273 1007	SAFETY KLEEN	401 273 3087	Providence	RI	02903							
ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX								
07	6/8/11	1628	X	S	VB-3	1	1	1	1	1	1	1	1
08	6/8/11	1630	X	S	VB-4	1	1	1	1	1	1	1	1
09	6/8/11	1633	X	S	VB-5	1	1	1	1	1	1	1	1
10	6/8/11	1635	X	S	VB-6	1	1	1	1	1	1	1	1
11	6/8/11	1638	X	S	VB-7	1	1	1	1	1	1	1	1
12	6/8/11	1641	X	S	VB-8	1	1	1	1	1	1	1	1
13	6/8/11	1644	X	S	VB-9	1	1	1	1	1	1	1	1
14	6/8/11	1647	X	S	VB-10	1	1	1	1	1	1	1	1
15	6/8/11	1649	X	S	VB-11	1	1	1	1	1	1	1	1
16	6/8/11	1653	X	S	VB-12	1	1	1	1	1	1	1	1

Container Type: P-Poly, G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present: ☒ Yes ☐ No Internal Use Only: ☒ Yes ☐ No NA: ☒ Pickup

Seals Intact: ☒ Yes ☐ No NA: ☒ Pickup

Cooler Temp: 4.3 °C

Preservation Code: 1- NP, 2- HCl, 3- H₂SO₄, 4- HNO₃, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAc, 9- _____

Sampled by: SEAN DRISCOLL

Comments: 8082 with 3540 EXTRACTION

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
[Signature]	6/8/11 1715	[Signature]	6/8/11 1715	[Signature]	6/8/11 1715	[Signature]	6/8/11 1715
[Signature]		[Signature]		[Signature]		[Signature]	

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 B



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CERTIFICATE OF ANALYSIS

Janelle Bonn
Woodard & Curran - RI
95 Cedar Street, Suite 100
Providence, RI 02903

RE: SK Cranston (219303)

ESS Laboratory Work Order Number: 1106124

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director



Digitally signed by Laurel Stoddard
Date: 2011.06.13 16:28:35 -04'00'

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106124

SAMPLE RECEIPT

The following samples were received on June 09, 2011 for the analyses specified on the enclosed Chain of Custody Record.

<u>Lab Number</u>	<u>SampleName</u>	<u>Matrix</u>	<u>Analysis</u>
1106124-01	SW-18	Soil	8082
1106124-02	SW-19	Soil	8082
1106124-03	SW-12	Soil	8082
1106124-04	Dup-SW-19	Soil	8082
1106124-05	SW-23	Soil	8082
1106124-06	SW-24	Soil	8082



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106124

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-18
Date Sampled: 06/09/11 16:11
Percent Solids: 93
Initial Volume: 5.5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106124
ESS Laboratory Sample ID: 1106124-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/9/11 18:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analvte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.196)	10	1	06/11/11 0:34		CF10922
Aroclor 1221	ND (0.196)	10	1	06/11/11 0:34		CF10922
Aroclor 1232	ND (0.196)	10	1	06/11/11 0:34		CF10922
Aroclor 1242	ND (0.196)	10	1	06/11/11 0:34		CF10922
Aroclor 1248	1.42 (0.196)	10	1	06/11/11 0:34		CF10922
Aroclor 1254	3.07 (0.196)	10	1	06/11/11 0:34		CF10922
Aroclor 1260	ND (0.196)	10	1	06/11/11 0:34		CF10922
Aroclor 1262	ND (0.196)	10	1	06/11/11 0:34		CF10922
Aroclor 1268	ND (0.196)	10	1	06/11/11 0:34		CF10922

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	97 %		30-150
Surrogate: Decachlorobiphenyl [ZC]	108 %		30-150
Surrogate: Tetrachloro-m-xylene	63 %		30-150
Surrogate: Tetrachloro-m-xylene [ZC]	94 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-19

Date Sampled: 06/09/11 16:47

Percent Solids: 92

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106124

ESS Laboratory Sample ID: 1106124-02

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/9/11 18:30

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.213)	10	1	06/11/11 1:11		CF10922
Aroclor 1221	ND (0.213)	10	1	06/11/11 1:11		CF10922
Aroclor 1232	ND (0.213)	10	1	06/11/11 1:11		CF10922
Aroclor 1242	ND (0.213)	10	1	06/11/11 1:11		CF10922
Aroclor 1248	ND (0.213)	10	1	06/11/11 1:11		CF10922
Aroclor 1254	ND (0.213)	10	1	06/11/11 1:11		CF10922
Aroclor 1260	ND (0.213)	10	1	06/11/11 1:11		CF10922
Aroclor 1262	ND (0.213)	10	1	06/11/11 1:11		CF10922
Aroclor 1268	ND (0.213)	10	1	06/11/11 1:11		CF10922

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	102 %		30-150
Surrogate: Decachlorobiphenyl [2C]	104 %		30-150
Surrogate: Tetrachloro-m-xylene	103 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	108 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-12
Date Sampled: 06/09/11 15:20
Percent Solids: 87
Initial Volume: 5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106124
ESS Laboratory Sample ID: 1106124-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/9/11 18:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.230)	10	1	06/11/11 3:23		CF10922
Aroclor 1221	ND (0.230)	10	1	06/11/11 3:23		CF10922
Aroclor 1232	ND (0.230)	10	1	06/11/11 3:23		CF10922
Aroclor 1242	ND (0.230)	10	1	06/11/11 3:23		CF10922
Aroclor 1248	1.51 (0.230)	10	1	06/11/11 3:23		CF10922
Aroclor 1254	2.39 (0.230)	10	1	06/11/11 3:23		CF10922
Aroclor 1260	ND (0.230)	10	1	06/11/11 3:23		CF10922
Aroclor 1262	ND (0.230)	10	1	06/11/11 3:23		CF10922
Aroclor 1268	ND (0.230)	10	1	06/11/11 3:23		CF10922

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	113 %		30-150
Surrogate: Decachlorobiphenyl [2C]	113 %		30-150
Surrogate: Tetrachloro-m-xylene	101 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	108 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: Dup-SW-19
Date Sampled: 06/09/11 16:47
Percent Solids: 95
Initial Volume: 5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106124
ESS Laboratory Sample ID: 1106124-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/9/11 18:30

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.211)	10	1	06/11/11 4:01		CF10922
Aroclor 1221	ND (0.211)	10	1	06/11/11 4:01		CF10922
Aroclor 1232	ND (0.211)	10	1	06/11/11 4:01		CF10922
Aroclor 1242	ND (0.211)	10	1	06/11/11 4:01		CF10922
Aroclor 1248	ND (0.211)	10	1	06/11/11 4:01		CF10922
Aroclor 1254	ND (0.211)	10	1	06/11/11 4:01		CF10922
Aroclor 1260	ND (0.211)	10	1	06/11/11 4:01		CF10922
Aroclor 1262	ND (0.211)	10	1	06/11/11 4:01		CF10922
Aroclor 1268	ND (0.211)	10	1	06/11/11 4:01		CF10922

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	100 %		30-150
Surrogate: Decachlorobiphenyl [2C]	101 %		30-150
Surrogate: Tetrachloro-m-xylene	106 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	109 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-23
Date Sampled: 06/09/11 16:59
Percent Solids: 92
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106124
ESS Laboratory Sample ID: 1106124-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/9/11 18:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.213)	10	1	06/11/11 4:38		CF10922
Aroclor 1221	ND (0.213)	10	1	06/11/11 4:38		CF10922
Aroclor 1232	ND (0.213)	10	1	06/11/11 4:38		CF10922
Aroclor 1242	ND (0.213)	10	1	06/11/11 4:38		CF10922
Aroclor 1248	7.30 (1.07)	10	5	06/13/11 11:30		CF10922
Aroclor 1254	13.2 (1.07)	10	5	06/13/11 11:30		CF10922
Aroclor 1260	ND (0.213)	10	1	06/11/11 4:38		CF10922
Aroclor 1262	ND (0.213)	10	1	06/11/11 4:38		CF10922
Aroclor 1268	ND (0.213)	10	1	06/11/11 4:38		CF10922

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	99 %		30-150
Surrogate: Decachlorobiphenyl [2C]	95 %		30-150
Surrogate: Tetrachloro-m-xylene	80 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	85 %		30-150



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BAL Laboratory

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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-24

Date Sampled: 06/09/11 17:02

Percent Solids: 91

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106124

ESS Laboratory Sample ID: 1106124-06

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/9/11 18:30

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.215)	10	1	06/11/11 5:16		CF10922
Aroclor 1221	ND (0.215)	10	1	06/11/11 5:16		CF10922
Aroclor 1232	ND (0.215)	10	1	06/11/11 5:16		CF10922
Aroclor 1242	ND (0.215)	10	1	06/11/11 5:16		CF10922
Aroclor 1248	1.48 (0.215)	10	1	06/11/11 5:16		CF10922
Aroclor 1254	6.25 (0.431)	10	2	06/13/11 11:49		CF10922
Aroclor 1260	ND (0.215)	10	1	06/11/11 5:16		CF10922
Aroclor 1262	ND (0.215)	10	1	06/11/11 5:16		CF10922
Aroclor 1268	ND (0.215)	10	1	06/11/11 5:16		CF10922

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	96 %		30-150
Surrogate: Decachlorobiphenyl [2C]	97 %		30-150
Surrogate: Tetrachloro-m-xylene	92 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	95 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106124

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
---------	--------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-----------

8082 Polychlorinated Biphenyls (PCB)

Batch CF10922 - 3540

Blank

Aroclor 1016	ND	0.0500	mg/kg wet
Aroclor 1221	ND	0.0500	mg/kg wet
Aroclor 1232	ND	0.0500	mg/kg wet
Aroclor 1242	ND	0.0500	mg/kg wet
Aroclor 1248	ND	0.0500	mg/kg wet
Aroclor 1254	ND	0.0500	mg/kg wet
Aroclor 1260	ND	0.0500	mg/kg wet
Aroclor 1262	ND	0.0500	mg/kg wet
Aroclor 1268	ND	0.0500	mg/kg wet

Surrogate: Decachlorobiphenyl	0.0287		mg/kg wet	0.02500	115	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0271		mg/kg wet	0.02500	108	30-150
Surrogate: Tetrachloro-m-xylene	0.0233		mg/kg wet	0.02500	93	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0244		mg/kg wet	0.02500	98	30-150

LCS

Aroclor 1016	0.631	0.0500	mg/kg wet	0.5000	126	40-140
Aroclor 1260	0.676	0.0500	mg/kg wet	0.5000	135	40-140
Surrogate: Decachlorobiphenyl	0.0305		mg/kg wet	0.02500	122	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0284		mg/kg wet	0.02500	114	30-150
Surrogate: Tetrachloro-m-xylene	0.0261		mg/kg wet	0.02500	105	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0256		mg/kg wet	0.02500	103	30-150

LCS Dup

Aroclor 1016	0.664	0.0500	mg/kg wet	0.5000	133	40-140	5	50
Aroclor 1260	0.708	0.0500	mg/kg wet	0.5000	142	40-140	4	50
Surrogate: Decachlorobiphenyl	0.0312		mg/kg wet	0.02500	125	30-150		
Surrogate: Decachlorobiphenyl [2C]	0.0294		mg/kg wet	0.02500	117	30-150		
Surrogate: Tetrachloro-m-xylene	0.0278		mg/kg wet	0.02500	111	30-150		
Surrogate: Tetrachloro-m-xylene [2C]	0.0273		mg/kg wet	0.02500	109	30-150		



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106124

Notes and Definitions

U	Analyte included in the analysis, but not detected
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106124

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/labs/waterlabs-instate.php>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/out_state.pdf

Maine Potable and Non Potable Water: RI0002

http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/labcert/labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://www4.egov.nh.gov/des/nhelap/namesearch.asp>

New York (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301

http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

South Carolina Volatile Organic Compounds in Potable Water: 78003

New Jersey Potable (VOA) and Non Potable Water (RCRA), Solids and Hazardous Waste: RI002

<http://www.nj.gov/dep/oqa/certlabs.htm>

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

Sample and Cooler Receipt Checklist

Client: Woodard & Curran

Client Project ID: _____

Shipped/Delivered Via: ClientESS Project ID: 11060124Date Project Due: 6/13/11Days For Project: 2 Day**Items to be checked upon receipt:**

1. Air Bill Manifest Present?

☐ * No

Air No.:

2. Were Custody Seals Present?

☐ No

3. Were Custody Seals Intact?

☐ N/A

4. Is Radiation count < 100 CPM?

☐ Yes

5. Is a cooler present?

☐ YesCooler Temp: 4.6Iced With: Ice

6. Was COC Included with samples?

☐ Yes

7. Was COC signed and dated by client?

☐ Yes

8. Does the COC match the sample

☐ Yes

9. Is COC complete and correct?

☐ Yes

10. Are the samples properly preserved?

☐ Yes

11. Proper sample containers used?

☐ Yes

12. Any air bubbles in the VOA vials?

☐ N/A

13. Holding times exceeded?

☐ No

14. Sufficient sample volumes?

☐ Yes

15. Any Subcontracting needed?

☐ No16. Are ESS labels on correct containers? ☒ Yes ☐ No17. Were samples received intact? ☒ Yes ☐ No

ESS Sample IDs: _____

Sub Lab: _____

Analysis: _____

TAT: _____

18. Was there need to call project manager to discuss status? If yes, please explain.

Who was called?: _____

By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	3	NP
3	Yes	4 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP

Completed By: mkDate/Time: 6/9/11Reviewed By: msDate/Time: 6/9/11

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 1 of 3

Turn Time: Standard Other: 2054
If faster than 5 days, prior approval by laboratory is required #
State where samples were collected from: MA RD CT NH NJ NY ME Other
Is this project for any of the following: MA-MCP Navy USACE Other
Reporting Limits: ESS LAB PROJECT ID 1106124
Electronic Deliverable: Yes No
Format: Excel Access PDF Other

Co. Name	Project #	Project Name (20 Char. or less)	Type of Containers	Number of Containers	Type of Containers	Circle and/or Write Required Analysis				
Woodward & Lozano	219303	Safety Kiosk								
Contact Person	Address	City	State	Zip	PO#					
Janelle Brown	95 Canal St	Providence	RI	02903						
Telephone #	Fax #									
401 273 1007	401 273 5087									
ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Res Code	Number of Containers	Type of Containers	Analysis
1	6/9/11	1546	X	S	S	VB-16	1	16		VOA 8260 624 524.2 MIBB/BTEX GRO 8015 VPH TPH 8100 8015 EPH 8082 608 PCB 8270 PAH 8270 RCRA5 RCRA8 PPI3 TAL23 TCR-RCRA8 NBC7 MCP-METALS (13) MCP-METALS (13) w/Hg
2	6/9/11	1545	X	S	S	VB-17	1	16		
3	6/9/11	1605	X	S	S	SW-15	1	16		
4	6/9/11	1608	X	S	S	SW-17	1	16		
5	6/9/11	1611	X	S	S	SW-18	1	16		
6	6/9/11	1605	X	S	S	DUP-SW-15	1	16		
7	6/9/11	1605	X	S	S	MS-SW-15	1	16		
8	6/9/11	1605	X	S	S	MSD-SW-15	1	16		
9	6/9/11	1644	X	S	S	SW-16	1	16		
10	6/9/11	1647	X	S	S	SW-19	1	16		

Container Type: P-Poly G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present: Yes No
Seals Intact: Yes No NA
Cooler Temp: 4.61 C

Preservation Code: 1-NP, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAc2, 9-
Sampled by: Sean Driscoll
Comments: 8082 with 350 EXTRACTION

Relinquished by (Signature)	Date/Time	Received by (Signature)	Date/Time
Janelle Brown	6/9/11 11:25		

Page 2 of 3

Turn Time	Standard	Other	USACE
If faster than 5 days, prior approval by laboratory is required # _____			
State where samples were collected from:			
MA	RI	CT	NH
ME	NJ	NY	Other
Is this project for any of the following:			
MA-MCP	Navy	USACE	Other

Reporting Limits	ESS LAB PROJECT ID 1106124
Electronic Deliverable	
Format:	Excel ___ Access ___ PDF ___ Other ___
Yes ___ No ___	

Co. Name	Project #	Project Name (20 Char. or less)	Type of Containers				Number of Containers				Circle and/or Write Required Analysis									
ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)			Pres Code											
Woodland & Curran	219303	Safety Klee																		
Contract Person	Address																			
Janelle Brown	95 Cedar St.																			
City	State	Zip	PO#																	
Providence	RI	02903																		
Telephone #	Fax #																			
401 273 1067	401 273 5087																			
ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)			Pres Code											
—	6/9/11	1500		X	S	SW-8			1											
—	6/9/11	1500		X	S	Dup-SW-8			1											
—	6/9/11	1500		X	S	MS-SW-8			1											
—	6/9/11	1500		X	S	MSD-SW-8			1											
03	6/9/11	1520		X	S	SW-12			1											
—	6/9/11	1530		X	S	SW-13			1											
—	6/9/11	1525		X	S	SW-14			1											
—	6/9/11	1540		X	S	VB-13			1											
—	6/9/11	1543		X	S	VB-14			1											
—	6/9/11	1552		X	S	VB-15			1											



Container Type:	P-Poly	G-Glass	S-Sterile	V-VOA	Matrix:	S-Soil	SD-Solid	D-Sludge	WW-Waste	GW-Ground	SW-Surface	DW-Drinking	W-Wipes	F-Filters
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Cooler Present ☒ Yes ☐ No Internal Use OnlySeals Intact ☐ Yes ☒ No NA: ☐ PickupCooler Temp: 7.6 Ice 1 Ce
☐ Technicians _____

Preservation Code 1-NP 2-HCl, 3-H₂SO₄, 4-HNO₃, 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAc₂, 9-

Sampled by: Sam Dick

Comments: 8082 with 3540 EXTRACTIONS

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
	6/9/11 11725		6/9/11 1725				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 B

ESS Laboratory

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CHAIN OF CUSTODY

Page 3 of 3

Turn Time If faster than 5 days, prior approval by laboratory is required #	Standard Other	ESS LAB PROJECT ID
State where samples were collected from: MA CT NH NJ NY ME Other	MA-MCP	1106124
Is this project for any of the following: Navy USACE Other	USACE	Electronic Deliverable Yes No
Format: Excel Access PDF Other		

Co. Name Woodward & Curran	Project # 219303	Project Name (20 Char or less) Safety KLEEN								
Contact Person Janelle Brown	Address 401 273 1057	City Providence								
State RI	Zip 02903	PO#								
Telephone # 401 273 1057	Fax # 401 273 5087	Email Address								
ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char or less)	Pres Code	Number of Containers	Type of Containers	Circle and/or Write Required Analysis
04	6/9/11	1647	X	S	DUP-SW-19	1	1	1	1	RUSH
05	6/9/11	1647	X	S	MS-SW-19	1	1	1	1	
06	6/9/11	1647	X	S	MSO-SW-19	1	1	1	1	
07	6/9/11	1650	X	S	SW-20	1	1	1	1	
08	6/9/11	1653	X	S	SW-21	1	1	1	1	
09	6/9/11	1656	X	S	SW-22	1	1	1	1	
10	6/9/11	1659	X	S	SW-23	1	1	1	1	RUSH
11	6/9/11	1702	X	S	SW-24	1	1	1	1	RUSH

Container Type: P-Poly G-Glass S-Sterile V-VOA	Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters
Cooler Present Yes No	Internal Use Only Yes No
Seals Intact Yes No	NA: [] Pickup
Cooler Temp: 4.6 ice	Comments: PPS 2082 with 3540 EXTRACTION
Relinquished by (Signature)	Date/Time
Relinquished by (Signature)	Date/Time
Relinquished by (Signature)	Date/Time
Relinquished by (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 B



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CERTIFICATE OF ANALYSIS

Janelle Bonn
Woodard & Curran - RI
95 Cedar Street, Suite 100
Providence, RI 02903

RE: SK Cranston (219303)

ESS Laboratory Work Order Number: 1106125

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director



Digitally signed by Laurel Stoddard
Date: 2011.06.16 11:28:29 -04'00'

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106125

SAMPLE RECEIPT

The following samples were received on June 09, 2011 for the analyses specified on the enclosed Chain of Custody Record.

<u>Lab Number</u>	<u>SampleName</u>	<u>Matrix</u>	<u>Analysis</u>
1106125-01	VB-16	Soil	8082
1106125-02	VB-17	Soil	8082
1106125-03	SW-15	Soil	8082
1106125-04	SW-17	Soil	8082
1106125-05	Dup-Sw-15	Soil	8082
1106125-06	SW-16	Soil	8082
1106125-07	SW-8	Soil	8082
1106125-08	Dup-Sw-8	Soil	8082
1106125-09	SW-13	Soil	8082
1106125-10	SW-14	Soil	8082
1106125-11	VB-13	Soil	8082
1106125-12	VB-14	Soil	8082
1106125-13	VB-15	Soil	8082
1106125-14	SW-20	Soil	8082
1106125-15	SW-21	Soil	8082
1106125-16	SW-22	Soil	8082



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106125

PROJECT NARRATIVE

8082 Polychlorinated Biphenyls (PCB)

1106125-01 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1106125-02 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1106125-07 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1106125-08 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1106125-10 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

CF11017-MS2 Matrix Spike is diluted below the MRL (MD).
Aroclor 1016 (% @ 40-140%), Aroclor 1260 (% @ 40-140%)

CF11017-MS2 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

CF11017-MSD2 Matrix Spike is diluted below the MRL (MD).
Aroclor 1016 (% @ 40-140%), Aroclor 1260 (% @ 40-140%)

CF11017-MSD2 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



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BAL Laboratory

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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-16
Date Sampled: 06/09/11 15:46
Percent Solids: 91
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106125
ESS Laboratory Sample ID: 1106125-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/10/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (43.1)	10	200	06/14/11 11:22		CF11017
Aroclor 1221	ND (43.1)	10	200	06/14/11 11:22		CF11017
Aroclor 1232	ND (43.1)	10	200	06/14/11 11:22		CF11017
Aroclor 1242	ND (43.1)	10	200	06/14/11 11:22		CF11017
Aroclor 1248	689 (43.1)	10	200	06/14/11 11:22		CF11017
Aroclor 1254	ND (43.1)	10	200	06/14/11 11:22		CF11017
Aroclor 1260	ND (43.1)	10	200	06/14/11 11:22		CF11017
Aroclor 1262	ND (43.1)	10	200	06/14/11 11:22		CF11017
Aroclor 1268	ND (43.1)	10	200	06/14/11 11:22		CF11017

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-17

Date Sampled: 06/09/11 15:49

Percent Solids: 94

Initial Volume: 5

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106125

ESS Laboratory Sample ID: 1106125-02

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/10/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (10.6)	10	50	06/14/11 8:51		CF11017
Aroclor 1221	ND (10.6)	10	50	06/14/11 8:51		CF11017
Aroclor 1232	ND (10.6)	10	50	06/14/11 8:51		CF11017
Aroclor 1242	ND (10.6)	10	50	06/14/11 8:51		CF11017
Aroclor 1248	177 (10.6)	10	50	06/14/11 8:51		CF11017
Aroclor 1254	ND (10.6)	10	50	06/14/11 8:51		CF11017
Aroclor 1260	ND (10.6)	10	50	06/14/11 8:51		CF11017
Aroclor 1262	ND (10.6)	10	50	06/14/11 8:51		CF11017
Aroclor 1268	ND (10.6)	10	50	06/14/11 8:51		CF11017

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-15
Date Sampled: 06/09/11 16:05
Percent Solids: 93
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106125
ESS Laboratory Sample ID: 1106125-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/10/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.211)	10	1	06/13/11 16:31		CF11017
Aroclor 1221	ND (0.211)	10	1	06/13/11 16:31		CF11017
Aroclor 1232	ND (0.211)	10	1	06/13/11 16:31		CF11017
Aroclor 1242	ND (0.211)	10	1	06/13/11 16:31		CF11017
Aroclor 1248	1.63 (0.211)	10	1	06/13/11 16:31		CF11017
Aroclor 1254	ND (0.211)	10	1	06/13/11 16:31		CF11017
Aroclor 1260	ND (0.211)	10	1	06/13/11 16:31		CF11017
Aroclor 1262	ND (0.211)	10	1	06/13/11 16:31		CF11017
Aroclor 1268	ND (0.211)	10	1	06/13/11 16:31		CF11017

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	102 %		30-150
Surrogate: Decachlorobiphenyl [2C]	100 %		30-150
Surrogate: Tetrachloro-m-xylene	82 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	98 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-17

Date Sampled: 06/09/11 16:08

Percent Solids: 92

Initial Volume: 5.4

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106125

ESS Laboratory Sample ID: 1106125-04

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/10/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.201)	10	1	06/13/11 20:17		CF11017
Aroclor 1221	ND (0.201)	10	1	06/13/11 20:17		CF11017
Aroclor 1232	ND (0.201)	10	1	06/13/11 20:17		CF11017
Aroclor 1242	ND (0.201)	10	1	06/13/11 20:17		CF11017
Aroclor 1248	1.54 (0.201)	10	1	06/13/11 20:17		CF11017
Aroclor 1254	2.83 (0.201)	10	1	06/13/11 20:17		CF11017
Aroclor 1260	ND (0.201)	10	1	06/13/11 20:17		CF11017
Aroclor 1262	ND (0.201)	10	1	06/13/11 20:17		CF11017
Aroclor 1268	ND (0.201)	10	1	06/13/11 20:17		CF11017

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	105 %		30-150
Surrogate: Decachlorobiphenyl [2C]	109 %		30-150
Surrogate: Tetrachloro-m-xylene	104 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	99 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: Dup-Sw-15
Date Sampled: 06/09/11 16:05
Percent Solids: 93
Initial Volume: 5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106125
ESS Laboratory Sample ID: 1106125-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/10/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.215)	10	1	06/13/11 20:55		CF11017
Aroclor 1221	ND (0.215)	10	1	06/13/11 20:55		CF11017
Aroclor 1232	ND (0.215)	10	1	06/13/11 20:55		CF11017
Aroclor 1242	ND (0.215)	10	1	06/13/11 20:55		CF11017
Aroclor 1248	2.00 (0.215)	10	1	06/13/11 20:55		CF11017
Aroclor 1254	ND (0.215)	10	1	06/13/11 20:55		CF11017
Aroclor 1260	ND (0.215)	10	1	06/13/11 20:55		CF11017
Aroclor 1262	ND (0.215)	10	1	06/13/11 20:55		CF11017
Aroclor 1268	ND (0.215)	10	1	06/13/11 20:55		CF11017

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	76 %		30-150
Surrogate: Decachlorobiphenyl [2C]	65 %		30-150
Surrogate: Tetrachloro-m-xylene	59 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	56 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-16
Date Sampled: 06/09/11 16:44
Percent Solids: 94
Initial Volume: 5.4
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106125
ESS Laboratory Sample ID: 1106125-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/10/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.197)	10	1	06/13/11 14:38		CF11017
Aroclor 1221	ND (0.197)	10	1	06/13/11 14:38		CF11017
Aroclor 1232	ND (0.197)	10	1	06/13/11 14:38		CF11017
Aroclor 1242	ND (0.197)	10	1	06/13/11 14:38		CF11017
Aroclor 1248	ND (0.197)	10	1	06/13/11 14:38		CF11017
Aroclor 1254	0.514 (0.197)	10	1	06/13/11 14:38		CF11017
Aroclor 1260	ND (0.197)	10	1	06/13/11 14:38		CF11017
Aroclor 1262	ND (0.197)	10	1	06/13/11 14:38		CF11017
Aroclor 1268	ND (0.197)	10	1	06/13/11 14:38		CF11017

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	65 %		30-150
Surrogate: Decachlorobiphenyl [2C]	64 %		30-150
Surrogate: Tetrachloro-m-xylene	63 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	66 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-8
Date Sampled: 06/09/11 15:00
Percent Solids: 94
Initial Volume: 5.2
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106125
ESS Laboratory Sample ID: 1106125-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/10/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (102)	10	500	06/14/11 11:41		CF11017
Aroclor 1221	ND (102)	10	500	06/14/11 11:41		CF11017
Aroclor 1232	ND (102)	10	500	06/14/11 11:41		CF11017
Aroclor 1242	ND (102)	10	500	06/14/11 11:41		CF11017
Aroclor 1248	1920 (102)	10	500	06/14/11 11:41		CF11017
Aroclor 1254	ND (102)	10	500	06/14/11 11:41		CF11017
Aroclor 1260	ND (102)	10	500	06/14/11 11:41		CF11017
Aroclor 1262	ND (102)	10	500	06/14/11 11:41		CF11017
Aroclor 1268	ND (102)	10	500	06/14/11 11:41		CF11017

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: Dup-Sw-8
Date Sampled: 06/09/11 15:00
Percent Solids: 92
Initial Volume: 5.4
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106125
ESS Laboratory Sample ID: 1106125-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/10/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (201)	10	1000	06/14/11 12:37		CF11017
Aroclor 1221	ND (201)	10	1000	06/14/11 12:37		CF11017
Aroclor 1232	ND (201)	10	1000	06/14/11 12:37		CF11017
Aroclor 1242	ND (201)	10	1000	06/14/11 12:37		CF11017
Aroclor 1248	2520 (201)	10	1000	06/14/11 12:37		CF11017
Aroclor 1254	ND (201)	10	1000	06/14/11 12:37		CF11017
Aroclor 1260	ND (201)	10	1000	06/14/11 12:37		CF11017
Aroclor 1262	ND (201)	10	1000	06/14/11 12:37		CF11017
Aroclor 1268	ND (201)	10	1000	06/14/11 12:37		CF11017

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-13
Date Sampled: 06/09/11 15:30
Percent Solids: 94
Initial Volume: 5.4
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106125
ESS Laboratory Sample ID: 1106125-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/10/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.197)	10	1	06/14/11 0:03		CF11017
Aroclor 1221	ND (0.197)	10	1	06/14/11 0:03		CF11017
Aroclor 1232	ND (0.197)	10	1	06/14/11 0:03		CF11017
Aroclor 1242	ND (0.197)	10	1	06/14/11 0:03		CF11017
Aroclor 1248	6.21 (0.985)	10	5	06/14/11 10:25		CF11017
Aroclor 1254	9.51 (0.985)	10	5	06/14/11 10:25		CF11017
Aroclor 1260	ND (0.197)	10	1	06/14/11 0:03		CF11017
Aroclor 1262	ND (0.197)	10	1	06/14/11 0:03		CF11017
Aroclor 1268	ND (0.197)	10	1	06/14/11 0:03		CF11017

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	90 %		30-150
Surrogate: Decachlorobiphenyl [2C]	83 %		30-150
Surrogate: Tetrachloro-m-xylene	82 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	86 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-14
Date Sampled: 06/09/11 15:25
Percent Solids: 91
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106125
ESS Laboratory Sample ID: 1106125-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/10/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (10.8)	10	50	06/14/11 10:44		CF11017
Aroclor 1221	ND (10.8)	10	50	06/14/11 10:44		CF11017
Aroclor 1232	ND (10.8)	10	50	06/14/11 10:44		CF11017
Aroclor 1242	ND (10.8)	10	50	06/14/11 10:44		CF11017
Aroclor 1248	183 (10.8)	10	50	06/14/11 10:44		CF11017
Aroclor 1254	ND (10.8)	10	50	06/14/11 10:44		CF11017
Aroclor 1260	ND (10.8)	10	50	06/14/11 10:44		CF11017
Aroclor 1262	ND (10.8)	10	50	06/14/11 10:44		CF11017
Aroclor 1268	ND (10.8)	10	50	06/14/11 10:44		CF11017

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	%	SD	30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	%	SD	30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	%	SD	30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-13
Date Sampled: 06/09/11 15:40
Percent Solids: 91
Initial Volume: 5.3
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106125
ESS Laboratory Sample ID: 1106125-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/10/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.207)	10	1	06/14/11 3:12		CF11017
Aroclor 1221	ND (0.207)	10	1	06/14/11 3:12		CF11017
Aroclor 1232	ND (0.207)	10	1	06/14/11 3:12		CF11017
Aroclor 1242	ND (0.207)	10	1	06/14/11 3:12		CF11017
Aroclor 1248	2.48 (0.207)	10	1	06/14/11 3:12		CF11017
Aroclor 1254	ND (0.207)	10	1	06/14/11 3:12		CF11017
Aroclor 1260	ND (0.207)	10	1	06/14/11 3:12		CF11017
Aroclor 1262	ND (0.207)	10	1	06/14/11 3:12		CF11017
Aroclor 1268	ND (0.207)	10	1	06/14/11 3:12		CF11017

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	93 %		30-150
Surrogate: Decachlorobiphenyl [2C]	87 %		30-150
Surrogate: Tetrachloro-m-xylene	82 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	81 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-14

Date Sampled: 06/09/11 15:43

Percent Solids: 90

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106125

ESS Laboratory Sample ID: 1106125-12

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/10/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.218)	10	1	06/14/11 3:50		CF11017
Aroclor 1221	ND (0.218)	10	1	06/14/11 3:50		CF11017
Aroclor 1232	ND (0.218)	10	1	06/14/11 3:50		CF11017
Aroclor 1242	ND (0.218)	10	1	06/14/11 3:50		CF11017
Aroclor 1248	2.55 (0.218)	10	1	06/14/11 3:50		CF11017
Aroclor 1254	3.86 (0.218)	10	1	06/14/11 3:50		CF11017
Aroclor 1260	ND (0.218)	10	1	06/14/11 3:50		CF11017
Aroclor 1262	ND (0.218)	10	1	06/14/11 3:50		CF11017
Aroclor 1268	ND (0.218)	10	1	06/14/11 3:50		CF11017

<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	83 %	30-150
Surrogate: Decachlorobiphenyl [2C]	111 %	30-150
Surrogate: Tetrachloro-m-xylene	61 %	30-150
Surrogate: Tetrachloro-m-xylene [2C]	87 %	30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-15

Date Sampled: 06/09/11 15:52

Percent Solids: 96

Initial Volume: 5.5

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106125

ESS Laboratory Sample ID: 1106125-13

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/10/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.189)	10	1	06/14/11 4:27		CF11017
Aroclor 1221	ND (0.189)	10	1	06/14/11 4:27		CF11017
Aroclor 1232	ND (0.189)	10	1	06/14/11 4:27		CF11017
Aroclor 1242	ND (0.189)	10	1	06/14/11 4:27		CF11017
Aroclor 1248	8.13 (0.947)	10	5	06/14/11 12:56		CF11017
Aroclor 1254	ND (0.189)	10	1	06/14/11 4:27		CF11017
Aroclor 1260	ND (0.189)	10	1	06/14/11 4:27		CF11017
Aroclor 1262	ND (0.189)	10	1	06/14/11 4:27		CF11017
Aroclor 1268	ND (0.189)	10	1	06/14/11 4:27		CF11017

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	116 %		30-150
Surrogate: Decachlorobiphenyl [2C]	113 %		30-150
Surrogate: Tetrachloro-m-xylene	106 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	109 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-20

Date Sampled: 06/09/11 16:50

Percent Solids: 88

Initial Volume: 5

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106125

ESS Laboratory Sample ID: 1106125-14

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/10/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.227)	10	1	06/14/11 5:05		CF11017
Aroclor 1221	ND (0.227)	10	1	06/14/11 5:05		CF11017
Aroclor 1232	ND (0.227)	10	1	06/14/11 5:05		CF11017
Aroclor 1242	ND (0.227)	10	1	06/14/11 5:05		CF11017
Aroclor 1248	2.44 (0.227)	10	1	06/14/11 5:05		CF11017
Aroclor 1254	ND (0.227)	10	1	06/14/11 5:05		CF11017
Aroclor 1260	ND (0.227)	10	1	06/14/11 5:05		CF11017
Aroclor 1262	ND (0.227)	10	1	06/14/11 5:05		CF11017
Aroclor 1268	ND (0.227)	10	1	06/14/11 5:05		CF11017

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	118 %		30-150
Surrogate: Decachlorobiphenyl [2C]	119 %		30-150
Surrogate: Tetrachloro-m-xylene	109 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	136 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-21
Date Sampled: 06/09/11 16:53
Percent Solids: 92
Initial Volume: 5.2
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106125
ESS Laboratory Sample ID: 1106125-15
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/10/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.209)	10	1	06/14/11 5:43		CF11017
Aroclor 1221	ND (0.209)	10	1	06/14/11 5:43		CF11017
Aroclor 1232	ND (0.209)	10	1	06/14/11 5:43		CF11017
Aroclor 1242	ND (0.209)	10	1	06/14/11 5:43		CF11017
Aroclor 1248	ND (0.209)	10	1	06/14/11 5:43		CF11017
Aroclor 1254	1.24 (0.209)	10	1	06/14/11 5:43		CF11017
Aroclor 1260	ND (0.209)	10	1	06/14/11 5:43		CF11017
Aroclor 1262	ND (0.209)	10	1	06/14/11 5:43		CF11017
Aroclor 1268	ND (0.209)	10	1	06/14/11 5:43		CF11017

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	87 %		30-150
Surrogate: Decachlorobiphenyl [2C]	91 %		30-150
Surrogate: Tetrachloro-m-xylene	97 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	85 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-22

Date Sampled: 06/09/11 16:56

Percent Solids: 83

Initial Volume: 5.3

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106125

ESS Laboratory Sample ID: 1106125-16

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/10/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.227)	10	1	06/14/11 6:20		CF11017
Aroclor 1221	ND (0.227)	10	1	06/14/11 6:20		CF11017
Aroclor 1232	ND (0.227)	10	1	06/14/11 6:20		CF11017
Aroclor 1242	ND (0.227)	10	1	06/14/11 6:20		CF11017
Aroclor 1248	3.49 (0.227)	10	1	06/14/11 6:20		CF11017
Aroclor 1254	ND (0.227)	10	1	06/14/11 6:20		CF11017
Aroclor 1260	ND (0.227)	10	1	06/14/11 6:20		CF11017
Aroclor 1262	ND (0.227)	10	1	06/14/11 6:20		CF11017
Aroclor 1268	ND (0.227)	10	1	06/14/11 6:20		CF11017

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	103 %		30-150
Surrogate: Decachlorobiphenyl [2C]	88 %		30-150
Surrogate: Tetrachloro-m-xylene	99 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	98 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106125

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082 Polychlorinated Biphenyls (PCB)

Batch CF11017 - 3540

Blank

Aroclor 1016	ND	0.0500	mg/kg wet
Aroclor 1221	ND	0.0500	mg/kg wet
Aroclor 1232	ND	0.0500	mg/kg wet
Aroclor 1242	ND	0.0500	mg/kg wet
Aroclor 1248	ND	0.0500	mg/kg wet
Aroclor 1254	ND	0.0500	mg/kg wet
Aroclor 1260	ND	0.0500	mg/kg wet
Aroclor 1262	ND	0.0500	mg/kg wet
Aroclor 1268	ND	0.0500	mg/kg wet

Surrogate: Decachlorobiphenyl	0.0274		mg/kg wet	0.02500	110	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0259		mg/kg wet	0.02500	104	30-150
Surrogate: Tetrachloro-m-xylene	0.0247		mg/kg wet	0.02500	99	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0258		mg/kg wet	0.02500	103	30-150

LCS

Aroclor 1016	0.504	0.0500	mg/kg wet	0.5000	101	40-140
Aroclor 1260	0.520	0.0500	mg/kg wet	0.5000	104	40-140
Surrogate: Decachlorobiphenyl	0.0303		mg/kg wet	0.02500	121	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0284		mg/kg wet	0.02500	114	30-150
Surrogate: Tetrachloro-m-xylene	0.0286		mg/kg wet	0.02500	114	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0284		mg/kg wet	0.02500	114	30-150

LCS Dup

Aroclor 1016	0.500	0.0500	mg/kg wet	0.5000	100	40-140	0.6	50
Aroclor 1260	0.526	0.0500	mg/kg wet	0.5000	105	40-140	1	50
<hr/>								
Surrogate: Decachlorobiphenyl	0.0300		mg/kg wet	0.02500	120	30-150		
Surrogate: Decachlorobiphenyl [2C]	0.0282		mg/kg wet	0.02500	113	30-150		
Surrogate: Tetrachloro-m-xylene	0.0276		mg/kg wet	0.02500	110	30-150		
Surrogate: Tetrachloro-m-xylene [2C]	0.0271		mg/kg wet	0.02500	108	30-150		

Matrix Spike Source: 1106125-03

Aroclor 1016	1.81	0.207	mg/kg dry	2.068	ND	87	40-140
Aroclor 1260	2.15	0.207	mg/kg dry	2.068	ND	104	40-140
<hr/>							
Surrogate: Decachlorobiphenyl	0.122		mg/kg dry	0.1034		118	30-150
Surrogate: Decachlorobiphenyl [2C]	0.114		mg/kg dry	0.1034		110	30-150
Surrogate: Tetrachloro-m-xylene	0.0871		mg/kg dry	0.1034		84	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.102		mg/kg dry	0.1034		98	30-150

Matrix Spike Source: 1106125-07

Aroclor 1016	ND	104	mg/kg dry	2.086	ND	40-140	MD
Aroclor 1260	ND	104	mg/kg dry	2.086	ND	40-140	MD
Surrogate: Decachlorobiphenyl	ND		mg/kg dry	0.1043		30-150	SD
Surrogate: Decachlorobiphenyl [2C]	ND		mg/kg dry	0.1043		30-150	SD
Surrogate: Tetrachloro-m-xylene	ND		mg/kg dry	0.1043		30-150	SD



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106125

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082 Polychlorinated Biphenyls (PCB)										
Batch CF11017 - 3540										
Surrogate: Tetrachloro-m-xylene [2C]	ND		mg/kg dry	0.1043			30-150			SD
Matrix Spike Dup	Source: 1106125-03									
Aroclor 1016	1.97	0.211	mg/kg dry	2.108	ND	94	40-140	9	50	
Aroclor 1260	1.84	0.211	mg/kg dry	2.108	ND	87	40-140	15	50	
Surrogate: Decachlorobiphenyl	0.107		mg/kg dry	0.1054		102	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.106		mg/kg dry	0.1054		100	30-150			
Surrogate: Tetrachloro-m-xylene	0.0925		mg/kg dry	0.1054		88	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0956		mg/kg dry	0.1054		91	30-150			
Matrix Spike Dup	Source: 1106125-07									
Aroclor 1016	ND	104	mg/kg dry	2.086	ND		40-140		50	MD
Aroclor 1260	ND	104	mg/kg dry	2.086	ND		40-140		50	MD
Surrogate: Decachlorobiphenyl	ND		mg/kg dry	0.1043			30-150			SD
Surrogate: Decachlorobiphenyl [2C]	ND		mg/kg dry	0.1043			30-150			SD
Surrogate: Tetrachloro-m-xylene	ND		mg/kg dry	0.1043			30-150			SD
Surrogate: Tetrachloro-m-xylene [2C]	ND		mg/kg dry	0.1043			30-150			SD



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106125

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
MD	Matrix Spike is diluted below the MRL (MD).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106125

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/labs/waterlabs-instate.php>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/out_state.pdf

Maine Potable and Non Potable Water: RI0002

http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/labcert/labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://www4.egov.nh.gov/des/nhelap/namesearch.asp>

New York (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301

http://www.mdc.state.md.us/assets/document/WSP_labs-2009apr20.pdf

South Carolina Volatile Organic Compounds in Potable Water: 78003

New Jersey Potable (VOA) and Non Potable Water (RCRA), Solids and Hazardous Waste: RI002

<http://www.nj.gov/dep/oqa/certlabs.htm>

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

Sample and Cooler Receipt Checklist

Client: Woodard & Curran

Client Project ID: _____

Shipped/Delivered Via: ESS CourierESS Project ID: 11060125Date Project Due: 6/16/11

Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?

☒ No

Air No.:

2. Were Custody Seals Present?

☐ No

3. Were Custody Seals Intact?

☐ N/A

4. Is Radiation count < 100 CPM?

☐ Yes

5. Is a cooler present?

☐ YesCooler Temp: 4.6Iced With: Ice

6. Was COC included with samples?

☐ Yes

7. Was COC signed and dated by client?

☐ Yes

8. Does the COC match the sample

☐ Yes

9. Is COC complete and correct?

☐ Yes

10. Are the samples properly preserved?

☐ Yes

11. Proper sample containers used?

☐ Yes

12. Any air bubbles in the VOA vials?

☐ N/A

13. Holding times exceeded?

☐ No

14. Sufficient sample volumes?

☐ Yes

15. Any Subcontracting needed?

☐ No

16. Are ESS labels on correct containers?

☒ Yes ☐ No

17. Were samples received intact?

☒ Yes ☐ No

ESS Sample IDs: _____

Sub Lab: _____

Analysis: _____

TAT: _____

18. Was there need to call project manager to discuss status? If yes, please explain.

Jars not on chain SW-10, SW-11, VB-18,
VB-19, VB-20, VB21, VB22, VB23, VB24

Who was called?: _____

By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	3	NP
4	Yes	4 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	3	NP
8	Yes	4 oz Soil Jar	1	NP
9	Yes	4 oz Soil Jar	1	NP
10	Yes	4 oz Soil Jar	1	NP
11	Yes	4 oz Soil Jar	1	NP
12	Yes	4 oz Soil Jar	1	NP
13	Yes	4 oz Soil Jar	1	NP
14	Yes	4 oz Soil Jar	1	NP
15	Yes	4 oz Soil Jar	1	NP
16	Yes	4 oz Soil Jar	1	NP

Completed By: mxDate/Time: 6/9/11Reviewed By: HDate/Time: 6/9/11

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 1 of 3

Turn Time: Standard Other 2.5 hr
If faster than 5 days, prior approval by laboratory is required #
State where samples were collected from:
MA () CT () NH () NJ () NY () ME () Other ()
Is this project for any of the following:
MA-MCP Navy USACE Other
Reporting Limits: _____
Electronic Deliverable: Yes ___ No ___
Format: Excel ___ Access ___ PDF ___ Other ___

Co. Name	Project #	Project Name (20 Char. or less)	Zip	PO#	Address	Sample Identification (20 Char. or less)	Pres Code	Type of Containers	Number of Containers	Circle and/or Write Required Analysis
Wardlaw & Curran	219303	Safety Kiosk	02903							
Contact Person										
Janelle Brown										
City	State	Zip								
Providence	RI	02903								
Telephone #	Fax #									
401 273 1007	401 273 3087									
ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX					
01	6/9/11	1546	X	S	S	V/B-16	1	1	1	
02	6/9/11	1549	X	S	S	V/B-17	1	1	1	
03	6/9/11	1605	X	S	S	S/W-15	1	1	1	
04	6/9/11	1608	X	S	S	S/W-17	1	1	1	
05	6/9/11	1611	X	S	S	S/W-18	1	1	1	
06	6/9/11	1605	X	S	S	DUP-SW-15	1	1	1	
07	6/9/11	1605	X	S	S	MS-SW-15	1	1	1	
08	6/9/11	1605	X	S	S	MSD-SW-15	1	1	1	
09	6/9/11	1644	X	S	S	SW-16	1	1	1	
10	6/9/11	1647	X	S	S	SW-19	1	1	1	

Container Type: P-Poly G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes P-Filters

Cooler Present: Yes ___ No ___
Seals Intact: Yes ___ No NA: X
Cooler Temp: 4.61 C

Preservation Code: 1-NR, 2-HCl, 3-H₂SO₄, 4-HNO₃, 5-NaOH, 6-MeOH, 7-Asorbic Acid, 8-ZnAct, 9-
Sampled by: Sean Delaney
Comments: 8082 with 3540 EXTRACTION

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Janelle Brown	6/9/11 1125		

1 (White) Lab Copy 2 (Yellow) Client Receipt

ESS LAB PROJECT ID

1106125
Yes ___ No ___
DF ___ Other ___

Co. Name						Project #		Project Name (20 Char or less)		Circle and/or Write Required Analysis																	
Woodward & Curran JAVELLE BOWEN						219303		SAFETY KILN																			
City						State		Zip		PO#																	
Providence RI								02903																			
Telephone #						Fax #		Email Address																			
401 273 1007						401 273 5087																					
ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char or less)		Pres Code	Number of Containers	Type of Containers	VOL	VPH	GRO	8015	DRO	EPH w/o PAHs	EPH w/PAHs	PCB	Pesticides	PAH	SVOA	RCA5	RCA8	PP13	TAL23	NBC7	MCP-METALS (13) w/Hg
—	6/9/11	1647		X S		DUP-SW-19		1	1	1																	
—	6/9/11	1647		X S		MS-SW-19		1	1	1																	
—	6/9/11	1647		X S		MSO-SW-19		1	1	1																	
14	6/9/11	1650		X S		SW-20		1	1	1																	
15	6/9/11	1653		X S		SW-21		1	1	1																	
16	6/9/11	1656		X S		SW-22		1	1	1																	
—	6/9/11	1659		X S		SW-23		1	1	1																	RUSH
—	6/9/11	1702		X S		SW-24		1	1	1																	RUSH

Container Type: P-Poly, G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge VW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present Yes No Internal Use Only [] Pickup [] Technicians

Seals Intact Yes No NA: X

Cooler Temp: 4.6 ice

Comments: SEAN DUNSCALL PCB'S 2082 WITH 3540 EXTRACTION

Relinquished by: (Signature) Date/Time Received by: (Signature) Date/Time

1 (White) Lab Copy 2 (Yellow) Client Receipt



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CERTIFICATE OF ANALYSIS

Janelle Bonn
Woodard & Curran - RI
95 Cedar Street, Suite 100
Providence, RI 02903

RE: SK Cranston (219303)
ESS Laboratory Work Order Number: 1106132

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director



Digitally signed by Laurel Stoddard
Date: 2011.06.17 16:27:23 -04'00'

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106132

SAMPLE RECEIPT

The following samples were received on June 10, 2011 for the analyses specified on the enclosed Chain of Custody Record.

<u>Lab Number</u>	<u>SampleName</u>	<u>Matrix</u>	<u>Analysis</u>
1106132-01	SW-10	Soil	8082
1106132-02	SW-11	Soil	8082
1106132-03	VB-18	Soil	8082
1106132-04	VB-19	Soil	8082
1106132-05	VB-20	Soil	8082
1106132-06	VB-21	Soil	8082
1106132-07	VB-22	Soil	8082
1106132-08	VB-23	Soil	8082
1106132-09	VB-24	Soil	8082



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106132

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-10

Date Sampled: 06/09/11 15:05

Percent Solids: 92

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106132

ESS Laboratory Sample ID: 1106132-01

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/15/11 15:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.213)	10	1	06/16/11 13:59		CF11515
Aroclor 1221	ND (0.213)	10	1	06/16/11 13:59		CF11515
Aroclor 1232	ND (0.213)	10	1	06/16/11 13:59		CF11515
Aroclor 1242	ND (0.213)	10	1	06/16/11 13:59		CF11515
Aroclor 1248	16.3 (1.07)	10	5	06/17/11 9:29		CF11515
Aroclor 1254	15.8 (1.07)	10	5	06/17/11 9:29		CF11515
Aroclor 1260	ND (0.213)	10	1	06/16/11 13:59		CF11515
Aroclor 1262	ND (0.213)	10	1	06/16/11 13:59		CF11515
Aroclor 1268	ND (0.213)	10	1	06/16/11 13:59		CF11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	94 %		30-150
Surrogate: Decachlorobiphenyl [2C]	96 %		30-150
Surrogate: Tetrachloro-m-xylene	100 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	90 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-11

Date Sampled: 06/09/11 15:10

Percent Solids: 89

Initial Volume: 5.8

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106132

ESS Laboratory Sample ID: 1106132-02

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/15/11 15:30

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.194)	10	1	06/16/11 14:36		CF11515
Aroclor 1221	ND (0.194)	10	1	06/16/11 14:36		CF11515
Aroclor 1232	ND (0.194)	10	1	06/16/11 14:36		CF11515
Aroclor 1242	ND (0.194)	10	1	06/16/11 14:36		CF11515
Aroclor 1248	29.3 (1.94)	10	10	06/17/11 11:59		CF11515
Aroclor 1254	ND (0.194)	10	1	06/16/11 14:36		CF11515
Aroclor 1260	ND (0.194)	10	1	06/16/11 14:36		CF11515
Aroclor 1262	ND (0.194)	10	1	06/16/11 14:36		CF11515
Aroclor 1268	ND (0.194)	10	1	06/16/11 14:36		CF11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	118 %		30-150
Surrogate: Decachlorobiphenyl [2C]	125 %		30-150
Surrogate: Tetrachloro-m-xylene	98 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	92 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-18
Date Sampled: 06/09/11 16:20
Percent Solids: 91
Initial Volume: 5.3
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106132
ESS Laboratory Sample ID: 1106132-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/15/11 15:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.207)	10	1	06/16/11 15:22		CF11515
Aroclor 1221	ND (0.207)	10	1	06/16/11 15:22		CF11515
Aroclor 1232	ND (0.207)	10	1	06/16/11 15:22		CF11515
Aroclor 1242	ND (0.207)	10	1	06/16/11 15:22		CF11515
Aroclor 1248	0.645 (0.207)	10	1	06/16/11 15:22		CF11515
Aroclor 1254	ND (0.207)	10	1	06/16/11 15:22		CF11515
Aroclor 1260	ND (0.207)	10	1	06/16/11 15:22		CF11515
Aroclor 1262	ND (0.207)	10	1	06/16/11 15:22		CF11515
Aroclor 1268	ND (0.207)	10	1	06/16/11 15:22		CF11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	86 %		30-150
Surrogate: Decachlorobiphenyl [2C]	87 %		30-150
Surrogate: Tetrachloro-m-xylene	88 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	88 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-19
Date Sampled: 06/09/11 16:23
Percent Solids: 91
Initial Volume: 5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106132
ESS Laboratory Sample ID: 1106132-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/15/11 15:30

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.220)	10	1	06/16/11 16:00		CF11515
Aroclor 1221	ND (0.220)	10	1	06/16/11 16:00		CF11515
Aroclor 1232	ND (0.220)	10	1	06/16/11 16:00		CF11515
Aroclor 1242	ND (0.220)	10	1	06/16/11 16:00		CF11515
Aroclor 1248	ND (0.220)	10	1	06/16/11 16:00		CF11515
Aroclor 1254	ND (0.220)	10	1	06/16/11 16:00		CF11515
Aroclor 1260	ND (0.220)	10	1	06/16/11 16:00		CF11515
Aroclor 1262	ND (0.220)	10	1	06/16/11 16:00		CF11515
Aroclor 1268	ND (0.220)	10	1	06/16/11 16:00		CF11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	99 %		30-150
Surrogate: Decachlorobiphenyl [2C]	97 %		30-150
Surrogate: Tetrachloro-m-xylene	87 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	90 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-20
Date Sampled: 06/09/11 16:26
Percent Solids: 91
Initial Volume: 5.2
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106132
ESS Laboratory Sample ID: 1106132-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/15/11 15:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.211)	10	1	06/16/11 16:38		CF11515
Aroclor 1221	ND (0.211)	10	1	06/16/11 16:38		CF11515
Aroclor 1232	ND (0.211)	10	1	06/16/11 16:38		CF11515
Aroclor 1242	ND (0.211)	10	1	06/16/11 16:38		CF11515
Aroclor 1248	ND (0.211)	10	1	06/16/11 16:38		CF11515
Aroclor 1254	0.272 (0.211)	10	1	06/16/11 16:38		CF11515
Aroclor 1260	ND (0.211)	10	1	06/16/11 16:38		CF11515
Aroclor 1262	ND (0.211)	10	1	06/16/11 16:38		CF11515
Aroclor 1268	ND (0.211)	10	1	06/16/11 16:38		CF11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	94 %		30-150
Surrogate: Decachlorobiphenyl [2C]	96 %		30-150
Surrogate: Tetrachloro-m-xylene	91 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	93 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-21

Date Sampled: 06/09/11 16:29

Percent Solids: 93

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106132

ESS Laboratory Sample ID: 1106132-06

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/15/11 15:30

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.211)	10	1	06/16/11 17:15		CF11515
Aroclor 1221	ND (0.211)	10	1	06/16/11 17:15		CF11515
Aroclor 1232	ND (0.211)	10	1	06/16/11 17:15		CF11515
Aroclor 1242	ND (0.211)	10	1	06/16/11 17:15		CF11515
Aroclor 1248	ND (0.211)	10	1	06/16/11 17:15		CF11515
Aroclor 1254	ND (0.211)	10	1	06/16/11 17:15		CF11515
Aroclor 1260	0.405 (0.211)	10	1	06/16/11 17:15		CF11515
Aroclor 1262	ND (0.211)	10	1	06/16/11 17:15		CF11515
Aroclor 1268	ND (0.211)	10	1	06/16/11 17:15		CF11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	94 %		30-150
Surrogate: Decachlorobiphenyl [ZC]	94 %		30-150
Surrogate: Tetrachloro-m-xylene	96 %		30-150
Surrogate: Tetrachloro-m-xylene [ZC]	98 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-22
Date Sampled: 06/09/11 16:32
Percent Solids: 95
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106132
ESS Laboratory Sample ID: 1106132-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/15/11 15:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.206)	10	1	06/16/11 17:53		CF11515
Aroclor 1221	ND (0.206)	10	1	06/16/11 17:53		CF11515
Aroclor 1232	ND (0.206)	10	1	06/16/11 17:53		CF11515
Aroclor 1242	ND (0.206)	10	1	06/16/11 17:53		CF11515
Aroclor 1248	ND (0.206)	10	1	06/16/11 17:53		CF11515
Aroclor 1254	ND (0.206)	10	1	06/16/11 17:53		CF11515
Aroclor 1260	ND (0.206)	10	1	06/16/11 17:53		CF11515
Aroclor 1262	ND (0.206)	10	1	06/16/11 17:53		CF11515
Aroclor 1268	ND (0.206)	10	1	06/16/11 17:53		CF11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	99 %		30-150
Surrogate: Decachlorobiphenyl [2C]	95 %		30-150
Surrogate: Tetrachloro-m-xylene	88 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	92 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-23
Date Sampled: 06/09/11 16:35
Percent Solids: 91
Initial Volume: 5.2
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106132
ESS Laboratory Sample ID: 1106132-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/15/11 15:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.211)	10	1	06/16/11 18:31		CF11515
Aroclor 1221	ND (0.211)	10	1	06/16/11 18:31		CF11515
Aroclor 1232	ND (0.211)	10	1	06/16/11 18:31		CF11515
Aroclor 1242	ND (0.211)	10	1	06/16/11 18:31		CF11515
Aroclor 1248	ND (0.211)	10	1	06/16/11 18:31		CF11515
Aroclor 1254	1.09 (0.211)	10	1	06/16/11 18:31		CF11515
Aroclor 1260	ND (0.211)	10	1	06/16/11 18:31		CF11515
Aroclor 1262	ND (0.211)	10	1	06/16/11 18:31		CF11515
Aroclor 1268	ND (0.211)	10	1	06/16/11 18:31		CF11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	88 %		30-150
Surrogate: Decachlorobiphenyl [2C]	89 %		30-150
Surrogate: Tetrachloro-m-xylene	94 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	88 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-24
Date Sampled: 06/09/11 16:38
Percent Solids: 93
Initial Volume: 5.2
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106132
ESS Laboratory Sample ID: 1106132-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/15/11 15:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.207)	10	1	06/16/11 21:01		CF11515
Aroclor 1221	ND (0.207)	10	1	06/16/11 21:01		CF11515
Aroclor 1232	ND (0.207)	10	1	06/16/11 21:01		CF11515
Aroclor 1242	ND (0.207)	10	1	06/16/11 21:01		CF11515
Aroclor 1248	1.17 (0.207)	10	1	06/16/11 21:01		CF11515
Aroclor 1254	ND (0.207)	10	1	06/16/11 21:01		CF11515
Aroclor 1260	ND (0.207)	10	1	06/16/11 21:01		CF11515
Aroclor 1262	ND (0.207)	10	1	06/16/11 21:01		CF11515
Aroclor 1268	ND (0.207)	10	1	06/16/11 21:01		CF11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	99 %		30-150
Surrogate: Decachlorobiphenyl [2C]	98 %		30-150
Surrogate: Tetrachloro-m-xylene	96 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	97 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106132

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082 Polychlorinated Biphenyls (PCB)

Batch CF11515 - 3540

Blank

Aroclor 1016	ND	0.0500	mg/kg wet
Aroclor 1221	ND	0.0500	mg/kg wet
Aroclor 1232	ND	0.0500	mg/kg wet
Aroclor 1242	ND	0.0500	mg/kg wet
Aroclor 1248	ND	0.0500	mg/kg wet
Aroclor 1254	ND	0.0500	mg/kg wet
Aroclor 1260	ND	0.0500	mg/kg wet
Aroclor 1262	ND	0.0500	mg/kg wet
Aroclor 1268	ND	0.0500	mg/kg wet

Surrogate: Decachlorobiphenyl	0.0248		mg/kg wet	0.02500		99	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0232		mg/kg wet	0.02500		93	30-150
Surrogate: Tetrachloro-m-xylene	0.0226		mg/kg wet	0.02500		90	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0233		mg/kg wet	0.02500		93	30-150

LCS

Aroclor 1016	0.419	0.0500	mg/kg wet	0.5000		84	40-140
Aroclor 1260	0.432	0.0500	mg/kg wet	0.5000		86	40-140
Surrogate: Decachlorobiphenyl	0.0255		mg/kg wet	0.02500		102	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0238		mg/kg wet	0.02500		95	30-150
Surrogate: Tetrachloro-m-xylene	0.0239		mg/kg wet	0.02500		96	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0235		mg/kg wet	0.02500		94	30-150

LCS Dup

Aroclor 1016	0.446	0.0500	mg/kg wet	0.5000		89	40-140	6	50
Aroclor 1260	0.452	0.0500	mg/kg wet	0.5000		90	40-140	4	50
Surrogate: Decachlorobiphenyl	0.0265		mg/kg wet	0.02500		106	30-150		
Surrogate: Decachlorobiphenyl [2C]	0.0248		mg/kg wet	0.02500		99	30-150		
Surrogate: Tetrachloro-m-xylene	0.0254		mg/kg wet	0.02500		102	30-150		
Surrogate: Tetrachloro-m-xylene [2C]	0.0251		mg/kg wet	0.02500		100	30-150		

Matrix Spike Source: 1106132-09

Aroclor 1016	2.85	0.215	mg/kg dry	2.151	ND	132	40-140		
Aroclor 1260	1.98	0.215	mg/kg dry	2.151	ND	92	40-140		
Surrogate: Decachlorobiphenyl	0.112		mg/kg dry	0.1075		104	30-150		
Surrogate: Decachlorobiphenyl [2C]	0.110		mg/kg dry	0.1075		102	30-150		
Surrogate: Tetrachloro-m-xylene	0.115		mg/kg dry	0.1075		107	30-150		
Surrogate: Tetrachloro-m-xylene [2C]	0.111		mg/kg dry	0.1075		103	30-150		

Matrix Spike Dup Source: 1106132-09

Aroclor 1016	2.38	0.211	mg/kg dry	2.108	ND	113	40-140	18	50
Aroclor 1260	2.03	0.211	mg/kg dry	2.108	ND	96	40-140	2	50
Surrogate: Decachlorobiphenyl	0.105		mg/kg dry	0.1054		100	30-150		
Surrogate: Decachlorobiphenyl [2C]	0.103		mg/kg dry	0.1054		98	30-150		
Surrogate: Tetrachloro-m-xylene	0.106		mg/kg dry	0.1054		101	30-150		



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106132

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082 Polychlorinated Biphenyls (PCB)

Batch CF11515 - 3540

Surrogate: Tetrachloro-m-xylene [ZC]	0.103	mg/kg dry	0.1054	98	30-150
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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106132

Notes and Definitions

U Analyte included in the analysis, but not detected
D Diluted.
ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference
MDL Method Detection Limit
MRL Method Reporting Limit
LOD Limit of Detection
LOQ Limit of Quantitation
DL Detection Limit
I/V Initial Volume
F/V Final Volume
§ Subcontracted analysis; see attached report
1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2 Range result excludes concentrations of target analytes eluting in that range.
3 Range result excludes the concentration of the C9-C10 aromatic range.
Avg Results reported as a mathematical average.
NR No Recovery
[CALC] Calculated Analyte



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106132

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/labs/waterlabs-instate.php>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/out_state.pdf

Maine Potable and Non Potable Water: RI0002

http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/labcert/labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://www4.egov.nh.gov/des/nhelap/namesearch.asp>

New York (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301

http://www.mdc.state.md.us/assets/document/WSP_labs-2009apr20.pdf

South Carolina Volatile Organic Compounds in Potable Water: 78003

New Jersey Potable (VOA) and Non Potable Water (RCRA), Solids and Hazardous Waste: RI002

<http://www.nj.gov/dep/oqa/certlabs.htm>

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

Sample and Cooler Receipt Checklist

Client: Woodard & Curran

Client Project ID: _____

Shipped/Delivered Via: ClientESS Project ID: 11060132Date Project Due: 6/17/11Days For Project: 5 Day**Items to be checked upon receipt:**

1. Air Bill Manifest Present?

☐ * No

Air No.:

2. Were Custody Seals Present?

☐ No

3. Were Custody Seals Intact?

☐ N/A

4. Is Radiation count < 100 CPM?

☐ Yes

5. Is a cooler present?

☐ YesCooler Temp: 4.6Iced With: Ice

6. Was COC included with samples?

☐ Yes

7. Was COC signed and dated by client?

☐ Yes

8. Does the COC match the sample

☐ Yes

9. Is COC complete and correct?

☐ Yes

10. Are the samples properly preserved?

☐ Yes

11. Proper sample containers used?

☐ Yes

12. Any air bubbles in the VOA vials?

☐ N/A

13. Holding times exceeded?

☐ No

14. Sufficient sample volumes?

☐ Yes

15. Any Subcontracting needed?

☐ No16. Are ESS labels on correct containers? ☒ Yes ☐ No17. Were samples received intact? ☒ Yes ☐ No

ESS Sample IDs: _____

Sub Lab: _____

Analysis: _____

TAT: _____

18. Was there need to call project manager to discuss status? If yes, please explain.

Who was called?: _____

By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	1	NP
8	Yes	4 oz Soil Jar	1	NP
9	Yes	4 oz Soil Jar	1	NP

Completed By: mkDate/Time: 6/10/11Reviewed By: 9Date/Time: 6/10/11

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 1 of 1

Turn Time If faster than 5 days, prior approval by laboratory is required #	Other _____
State where samples were collected from: MA <u>RI</u> CT NH NJ NY ME Other _____	
Is this project for any of the following: MA-MCP Navy USACE Other _____	

Reporting Limits	ESS LAB PROJECT ID <u>1106132</u>
Electronic Deliverable	Yes _____ No _____
Format: Excel _____ Access _____ PDF _____ Other _____	

Co. Name Woodward & Curran		Project # 219303		Project Name (20 Char. or less) Safety Klean	
Contact Person Janelle Bono		Address 95 Cedar Street		City Providence	
State RI		Zip 02903		PO#	
Telephone # 401 273-1057		Fax # 401 273-5087		Email Address	
ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX
01	6/9/11	1505	X	S	S
02	6/9/11	1510	X	S	S
03	6/9/11	1620	X	S	S
04	6/9/11	1623	X	S	S
05	6/9/11	1626	X	S	S
06	6/9/11	1629	X	S	S
07	6/9/11	1632	X	S	S
08	6/9/11	1635	X	S	S
09	6/9/11	1638	X	S	S

Container Type: P-Poly G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters	
Cooler Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Internal Use Only
Seals Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No NA: <input checked="" type="checkbox"/> [] Pickup	
Cooler Temp: 4.6 ice	
Relinquished by: (Signature) [Signature] Date/Time 6/10/11 1250	Received by: (Signature) [Signature] Date/Time 6/10/11 1250
Relinquished by: (Signature) [Signature] Date/Time 6/10/11 1250	Received by: (Signature) [Signature] Date/Time 6/10/11 1250

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 B



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CERTIFICATE OF ANALYSIS

Janelle Bonn
Woodard & Curran - RI
95 Cedar Street, Suite 100
Providence, RI 02903

RE: SK Cranston (219303)
ESS Laboratory Work Order Number: 1106217

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director



Digitally signed by Laurel Stoddard
Date: 2011.06.24 11:07:49 -04'00'

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106217

SAMPLE RECEIPT

The following samples were received on June 17, 2011 for the analyses specified on the enclosed Chain of Custody Record.

<u>Lab Number</u>	<u>SampleName</u>	<u>Matrix</u>	<u>Analysis</u>
1106217-01	SW-25	Soil	8082
1106217-02	SW-26	Soil	8082
1106217-03	SW-27	Soil	8082
1106217-04	SW-28	Soil	8082
1106217-05	SW-29	Soil	8082
1106217-06	VB-25	Soil	8082
1106217-07	VB-26	Soil	8082
1106217-08	VB-27	Soil	8082



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106217

PROJECT NARRATIVE

8082 Polychlorinated Biphenyls (PCB)

1106217-01 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1106217-02 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1106217-04 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1106217-05 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-25
Date Sampled: 06/17/11 14:05
Percent Solids: 80
Initial Volume: 5.3
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106217
ESS Laboratory Sample ID: 1106217-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/20/11 16:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (4.72)	10	20	06/22/11 22:04		CF12020
Aroclor 1221	ND (4.72)	10	20	06/22/11 22:04		CF12020
Aroclor 1232	ND (4.72)	10	20	06/22/11 22:04		CF12020
Aroclor 1242	ND (4.72)	10	20	06/22/11 22:04		CF12020
Aroclor 1248	70.8 (4.72)	10	20	06/22/11 22:04		CF12020
Aroclor 1254	ND (4.72)	10	20	06/22/11 22:04		CF12020
Aroclor 1260	ND (4.72)	10	20	06/22/11 22:04		CF12020
Aroclor 1262	ND (4.72)	10	20	06/22/11 22:04		CF12020
Aroclor 1268	ND (4.72)	10	20	06/22/11 22:04		CF12020

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-26

Date Sampled: 06/17/11 14:09

Percent Solids: 76

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106217

ESS Laboratory Sample ID: 1106217-02

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/20/11 16:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (25.8)	10	100	06/22/11 23:01		CF12020
Aroclor 1221	ND (25.8)	10	100	06/22/11 23:01		CF12020
Aroclor 1232	ND (25.8)	10	100	06/22/11 23:01		CF12020
Aroclor 1242	ND (25.8)	10	100	06/22/11 23:01		CF12020
Aroclor 1248	468 (25.8)	10	100	06/22/11 23:01		CF12020
Aroclor 1254	ND (25.8)	10	100	06/22/11 23:01		CF12020
Aroclor 1260	ND (25.8)	10	100	06/22/11 23:01		CF12020
Aroclor 1262	ND (25.8)	10	100	06/22/11 23:01		CF12020
Aroclor 1268	ND (25.8)	10	100	06/22/11 23:01		CF12020

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-27

Date Sampled: 06/17/11 14:14

Percent Solids: 90

Initial Volume: 5.2

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106217

ESS Laboratory Sample ID: 1106217-03

Sample Matrix: Soil

Units: mg/kg dry

Analyst: SEP

Prepared: 6/20/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	RI - RES DEC		Analyzed	Sequence	Batch
		Limit	DF			
Aroclor 1016	ND (0.214)	10	1	06/21/11 19:33		CF12020
Aroclor 1221	ND (0.214)	10	1	06/21/11 19:33		CF12020
Aroclor 1232	ND (0.214)	10	1	06/21/11 19:33		CF12020
Aroclor 1242	ND (0.214)	10	1	06/21/11 19:33		CF12020
Aroclor 1248	10.2 (2.14)	10	10	06/22/11 23:20		CF12020
Aroclor 1254	17.0 (2.14)	10	10	06/22/11 23:20		CF12020
Aroclor 1260	ND (0.214)	10	1	06/21/11 19:33		CF12020
Aroclor 1262	ND (0.214)	10	1	06/21/11 19:33		CF12020
Aroclor 1268	ND (0.214)	10	1	06/21/11 19:33		CF12020

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	110 %		30-150
Surrogate: Decachlorobiphenyl [ZC]	120 %		30-150
Surrogate: Tetrachloro-m-xylene	96 %		30-150
Surrogate: Tetrachloro-m-xylene [ZC]	105 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-28

Date Sampled: 06/17/11 14:18

Percent Solids: 91

Initial Volume: 5.2

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106217

ESS Laboratory Sample ID: 1106217-04

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/20/11 16:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (4.23)	10	20	06/22/11 23:39		CF12020
Aroclor 1221	ND (4.23)	10	20	06/22/11 23:39		CF12020
Aroclor 1232	ND (4.23)	10	20	06/22/11 23:39		CF12020
Aroclor 1242	ND (4.23)	10	20	06/22/11 23:39		CF12020
Aroclor 1248	80.6 (4.23)	10	20	06/22/11 23:39		CF12020
Aroclor 1254	ND (4.23)	10	20	06/22/11 23:39		CF12020
Aroclor 1260	ND (4.23)	10	20	06/22/11 23:39		CF12020
Aroclor 1262	ND (4.23)	10	20	06/22/11 23:39		CF12020
Aroclor 1268	ND (4.23)	10	20	06/22/11 23:39		CF12020

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-29

Date Sampled: 06/17/11 14:20

Percent Solids: 90

Initial Volume: 5

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106217

ESS Laboratory Sample ID: 1106217-05

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/20/11 16:00

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	RI - RES DEC		Analyzed	Sequence	Batch
		Limit	DF			
Aroclor 1016	ND (4.44)	10	20	06/22/11 17:03		CF12020
Aroclor 1221	ND (4.44)	10	20	06/22/11 17:03		CF12020
Aroclor 1232	ND (4.44)	10	20	06/22/11 17:03		CF12020
Aroclor 1242	ND (4.44)	10	20	06/22/11 17:03		CF12020
Aroclor 1248	47.1 (4.44)	10	20	06/22/11 17:03		CF12020
Aroclor 1254	78.9 (4.44)	10	20	06/22/11 17:03		CF12020
Aroclor 1260	ND (4.44)	10	20	06/22/11 17:03		CF12020
Aroclor 1262	ND (4.44)	10	20	06/22/11 17:03		CF12020
Aroclor 1268	ND (4.44)	10	20	06/22/11 17:03		CF12020

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-25
Date Sampled: 06/17/11 14:25
Percent Solids: 79
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106217
ESS Laboratory Sample ID: 1106217-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: SEP
Prepared: 6/20/11 16:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.248)	10	1	06/21/11 21:26		CF12020
Aroclor 1221	ND (0.248)	10	1	06/21/11 21:26		CF12020
Aroclor 1232	ND (0.248)	10	1	06/21/11 21:26		CF12020
Aroclor 1242	ND (0.248)	10	1	06/21/11 21:26		CF12020
Aroclor 1248	0.663 (0.248)	10	1	06/21/11 21:26		CF12020
Aroclor 1254	0.494 (0.248)	10	1	06/21/11 21:26		CF12020
Aroclor 1260	ND (0.248)	10	1	06/21/11 21:26		CF12020
Aroclor 1262	ND (0.248)	10	1	06/21/11 21:26		CF12020
Aroclor 1268	ND (0.248)	10	1	06/21/11 21:26		CF12020

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	110 %		30-150
Surrogate: Decachlorobiphenyl [2C]	130 %		30-150
Surrogate: Tetrachloro-m-xylene	97 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	96 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-26
Date Sampled: 06/17/11 14:30
Percent Solids: 86
Initial Volume: 5.3
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106217
ESS Laboratory Sample ID: 1106217-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: SEP
Prepared: 6/20/11 16:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.219)	10	1	06/21/11 22:04		CF12020
Aroclor 1221	ND (0.219)	10	1	06/21/11 22:04		CF12020
Aroclor 1232	ND (0.219)	10	1	06/21/11 22:04		CF12020
Aroclor 1242	ND (0.219)	10	1	06/21/11 22:04		CF12020
Aroclor 1248	2.30 (0.219)	10	1	06/21/11 22:04		CF12020
Aroclor 1254	2.19 (0.219)	10	1	06/21/11 22:04		CF12020
Aroclor 1260	ND (0.219)	10	1	06/21/11 22:04		CF12020
Aroclor 1262	ND (0.219)	10	1	06/21/11 22:04		CF12020
Aroclor 1268	ND (0.219)	10	1	06/21/11 22:04		CF12020

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	118 %		30-150
Surrogate: Decachlorobiphenyl [2C]	125 %		30-150
Surrogate: Tetrachloro-m-xylene	103 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	101 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-27

Date Sampled: 06/17/11 14:35

Percent Solids: 79

Initial Volume: 5.3

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106217

ESS Laboratory Sample ID: 1106217-08

Sample Matrix: Soil

Units: mg/kg dry

Analyst: SEP

Prepared: 6/20/11 16:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.239)	10	1	06/21/11 22:42		CF12020
Aroclor 1221	ND (0.239)	10	1	06/21/11 22:42		CF12020
Aroclor 1232	ND (0.239)	10	1	06/21/11 22:42		CF12020
Aroclor 1242	ND (0.239)	10	1	06/21/11 22:42		CF12020
Aroclor 1248	0.674 (0.239)	10	1	06/21/11 22:42		CF12020
Aroclor 1254	0.653 (0.239)	10	1	06/21/11 22:42		CF12020
Aroclor 1260	ND (0.239)	10	1	06/21/11 22:42		CF12020
Aroclor 1262	ND (0.239)	10	1	06/21/11 22:42		CF12020
Aroclor 1268	ND (0.239)	10	1	06/21/11 22:42		CF12020

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	116 %		30-150
Surrogate: Decachlorobiphenyl [2C]	109 %		30-150
Surrogate: Tetrachloro-m-xylene	85 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	104 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106217

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
---------	--------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-----------

8082 Polychlorinated Biphenyls (PCB)

Batch CF12020 - 3540

Blank

Aroclor 1016	ND	0.0500	mg/kg wet
Aroclor 1221	ND	0.0500	mg/kg wet
Aroclor 1232	ND	0.0500	mg/kg wet
Aroclor 1242	ND	0.0500	mg/kg wet
Aroclor 1248	ND	0.0500	mg/kg wet
Aroclor 1254	ND	0.0500	mg/kg wet
Aroclor 1260	ND	0.0500	mg/kg wet
Aroclor 1262	ND	0.0500	mg/kg wet
Aroclor 1268	ND	0.0500	mg/kg wet

Surrogate: Decachlorobiphenyl	0.0253		mg/kg wet	0.02500	101	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0240		mg/kg wet	0.02500	96	30-150
Surrogate: Tetrachloro-m-xylene	0.0226		mg/kg wet	0.02500	90	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0234		mg/kg wet	0.02500	93	30-150

LCS

Aroclor 1016	0.448	0.0500	mg/kg wet	0.5000	90	40-140
Aroclor 1260	0.451	0.0500	mg/kg wet	0.5000	90	40-140
Surrogate: Decachlorobiphenyl	0.0274		mg/kg wet	0.02500	110	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0260		mg/kg wet	0.02500	104	30-150
Surrogate: Tetrachloro-m-xylene	0.0262		mg/kg wet	0.02500	105	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0257		mg/kg wet	0.02500	103	30-150

LCS Dup

Aroclor 1016	0.459	0.0500	mg/kg wet	0.5000	92	40-140	2	50
Aroclor 1260	0.466	0.0500	mg/kg wet	0.5000	93	40-140	3	50
Surrogate: Decachlorobiphenyl	0.0280		mg/kg wet	0.02500	112	30-150		
Surrogate: Decachlorobiphenyl [2C]	0.0266		mg/kg wet	0.02500	106	30-150		
Surrogate: Tetrachloro-m-xylene	0.0261		mg/kg wet	0.02500	104	30-150		
Surrogate: Tetrachloro-m-xylene [2C]	0.0255		mg/kg wet	0.02500	102	30-150		



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106217

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106217

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/labs/waterlabs-instate.php>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/out_state.pdf

Maine Potable and Non Potable Water: RI0002

http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/labcert/labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://www4.egov.nh.gov/des/nhelap/namesearch.asp>

New York (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301

http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

South Carolina Volatile Organic Compounds in Potable Water: 78003

New Jersey Potable (VOA) and Non Potable Water (RCRA), Solids and Hazardous Waste: RI002

<http://www.nj.gov/dep/oqa/certlabs.htm>

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

Sample and Cooler Receipt Checklist

Client: Woodard & Curran

Client Project ID: _____

Shipped/Delivered Via: Client

ESS Project ID: 11060217

Date Project Due: 6/24/11

Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?

* No

Air No.:

2. Were Custody Seals Present?

No

3. Were Custody Seals Intact?

N/A

4. Is Radiation count < 100 CPM?

Yes

5. Is a cooler present?

Yes

Cooler Temp: 2.4

Iced With: Ice

6. Was COC included with samples?

Yes

7. Was COC signed and dated by client?

Yes

8. Does the COC match the sample

Yes

9. Is COC complete and correct?

Yes

10. Are the samples properly preserved?

Yes

11. Proper sample containers used?

Yes

12. Any air bubbles in the VOA vials?

N/A

13. Holding times exceeded?

No

14. Sufficient sample volumes?

Yes

15. Any Subcontracting needed?

No

16. Are ESS labels on correct containers?

Yes/No

17. Were samples received intact?

Yes/No

ESS Sample IDs: _____

Sub Lab: _____

Analysis: _____

TAT: _____

18. Was there need to call project manager to discuss status? If yes, please explain.

Who was called?: _____

By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	1	NP
8	Yes	4 oz Soil Jar	1	NP

Completed By: mk

Date/Time: 6/17/11

Reviewed By: [Signature]

Date/Time: 6/17/11

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 1 of 1

Turn Time <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Other _____ If faster than 5 days, prior approval by laboratory is required # _____		Reporting Limits ESS LAB PROJECT ID 1106217	
State where samples were collected from: MA <input checked="" type="checkbox"/> RI <input type="checkbox"/> CT <input type="checkbox"/> NH <input type="checkbox"/> NY <input type="checkbox"/> ME <input type="checkbox"/> Other _____		Electronic Deliverable Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is this project for any of the following: MA-MCP <input type="checkbox"/> Navy <input type="checkbox"/> USACE <input type="checkbox"/> Other _____		Format: Excel <input type="checkbox"/> Access <input type="checkbox"/> PDF <input type="checkbox"/> Other _____	

Co. Name Woodward & Curran		Project # 219303		Project Name (20 Char. or less) SAFETY KLEEN	
Contact Person Janelle Boni		Address 95 Cedar St.		PO# 02903	
City Providence		State RI		Zip 02903	
Telephone # 401-273-1007		Fax # 401-273-5087		Email Address _____	

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	Circle and/or Write Required Analysis
01	6/17/11	1405	X	S	S	SW-25	1	1 G		8260 VOA 624 524.2 8021 VPH 8015 MTBE/RTX GRO w/fragments 8100 TPH 8015 DRO EPH EPH EPH w/o PAHs w/PAHs & Dield. 8081 PCB 8082 PCB 608 PCB Pesticides PCB 8270 PAH 625 SVOA 8270 RCRA5 RCRA8 PP13 TAL23 TCLP-RCRA8 NBC7 MCP-METALS (13) w/Hg MCP-METALS (13)
02	6/17/11	1409	X	S	S	SW-26	1	1 G		
03	6/17/11	1414	X	S	S	SW-27	1	1 G		
04	6/17/11	1418	X	S	S	SW-28	1	1 G		
05	6/17/11	1420	X	S	S	SW-29	1	1 G		
06	6/17/11	1425	X	S	S	VB-25	1	1 G		
07	6/17/11	1430	X	S	S	VB-26	1	1 G		
08	6/17/11	1435	X	S	S	VB-27	1	1 G		

Container Type: P-Poly <input checked="" type="checkbox"/> G-Glass <input checked="" type="checkbox"/> S-Sterile <input type="checkbox"/> V-VOA <input type="checkbox"/> Matrix: <input checked="" type="checkbox"/> SD-Solid <input type="checkbox"/> D-Sludge <input type="checkbox"/> WW-Waste Water <input type="checkbox"/> GW-Ground Water <input type="checkbox"/> SW-Surface Water <input type="checkbox"/> DW-Drinking Water <input type="checkbox"/> O-Oil <input type="checkbox"/> W-Wipes <input type="checkbox"/> F-Filters	
Cooler Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Internal Use Only <input type="checkbox"/> Yes <input type="checkbox"/> No NA: <input checked="" type="checkbox"/> X
Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No NA: <input checked="" type="checkbox"/> X	
Cooler Temp: 2.4 ice	
Preservation Code (N) 2-HCl, 3-H ₂ SO ₄ , 4-HNO ₃ , 5-NaOH, 6-MeOH, 7-Ascorbic Acid, 8-ZnAc ₂ , 9-_____ Sampled by: Sean Driscoll Comments: 8082 with 3540 EXTRACTION	

Relinquished by: (Signature) 	Date/Time 6/17/11 1525	Received by: (Signature) 	Date/Time 6/17/11 1525
Relinquished by: (Signature) 	Date/Time 6/17/11 1525	Received by: (Signature) 	Date/Time 6/17/11 1525

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 R



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CERTIFICATE OF ANALYSIS

Janelle Bonn
Woodard & Curran - RI
95 Cedar Street, Suite 100
Providence, RI 02903

RE: SK Cranston (219303)

ESS Laboratory Work Order Number: 1106241

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director



Digitally signed by Laurel Stoddard
Date: 2011.06.27 14:55:32 -04'00'

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106241

SAMPLE RECEIPT

The following samples were received on June 20, 2011 for the analyses specified on the enclosed Chain of Custody Record.

<u>Lab Number</u>	<u>SampleName</u>	<u>Matrix</u>	<u>Analysis</u>
1106241-01	SW-30	Soil	8082
1106241-02	Dup-SW-30	Soil	8082
1106241-03	SW-31	Soil	8082
1106241-04	VB-28	Soil	8082
1106241-05	SW-32	Soil	8082
1106241-06	VB-16B	Soil	8082
1106241-07	VB-17B	Soil	8082



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106241

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-30

Date Sampled: 06/20/11 11:30

Percent Solids: 90

Initial Volume: 4.9

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106241

ESS Laboratory Sample ID: 1106241-01

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/21/11 18:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.227)	10	1	06/23/11 1:13		CF12121
Aroclor 1221	ND (0.227)	10	1	06/23/11 1:13		CF12121
Aroclor 1232	ND (0.227)	10	1	06/23/11 1:13		CF12121
Aroclor 1242	ND (0.227)	10	1	06/23/11 1:13		CF12121
Aroclor 1248	ND (0.227)	10	1	06/23/11 1:13		CF12121
Aroclor 1254	ND (0.227)	10	1	06/23/11 1:13		CF12121
Aroclor 1260	ND (0.227)	10	1	06/23/11 1:13		CF12121
Aroclor 1262	ND (0.227)	10	1	06/23/11 1:13		CF12121
Aroclor 1268	ND (0.227)	10	1	06/23/11 1:13		CF12121

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	86 %		30-150
Surrogate: Decachlorobiphenyl [2C]	81 %		30-150
Surrogate: Tetrachloro-m-xylene	91 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	102 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: Dup-SW-30
Date Sampled: 06/20/11 11:30
Percent Solids: 86
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106241
ESS Laboratory Sample ID: 1106241-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/21/11 18:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.228)	10	1	06/23/11 3:06		CF12121
Aroclor 1221	ND (0.228)	10	1	06/23/11 3:06		CF12121
Aroclor 1232	ND (0.228)	10	1	06/23/11 3:06		CF12121
Aroclor 1242	ND (0.228)	10	1	06/23/11 3:06		CF12121
Aroclor 1248	ND (0.228)	10	1	06/23/11 3:06		CF12121
Aroclor 1254	ND (0.228)	10	1	06/23/11 3:06		CF12121
Aroclor 1260	ND (0.228)	10	1	06/23/11 3:06		CF12121
Aroclor 1262	ND (0.228)	10	1	06/23/11 3:06		CF12121
Aroclor 1268	ND (0.228)	10	1	06/23/11 3:06		CF12121

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	107 %		30-150
Surrogate: Decachlorobiphenyl [2C]	100 %		30-150
Surrogate: Tetrachloro-m-xylene	93 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	101 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-31

Date Sampled: 06/20/11 11:35

Percent Solids: 87

Initial Volume: 5.2

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106241

ESS Laboratory Sample ID: 1106241-03

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/21/11 18:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.221)	10	1	06/23/11 3:44		CF12121
Aroclor 1221	ND (0.221)	10	1	06/23/11 3:44		CF12121
Aroclor 1232	ND (0.221)	10	1	06/23/11 3:44		CF12121
Aroclor 1242	ND (0.221)	10	1	06/23/11 3:44		CF12121
Aroclor 1248	ND (0.221)	10	1	06/23/11 3:44		CF12121
Aroclor 1254	ND (0.221)	10	1	06/23/11 3:44		CF12121
Aroclor 1260	ND (0.221)	10	1	06/23/11 3:44		CF12121
Aroclor 1262	ND (0.221)	10	1	06/23/11 3:44		CF12121
Aroclor 1268	ND (0.221)	10	1	06/23/11 3:44		CF12121

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	95 %		30-150
Surrogate: Decachlorobiphenyl [2C]	124 %		30-150
Surrogate: Tetrachloro-m-xylene	78 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	98 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-28
Date Sampled: 06/20/11 11:40
Percent Solids: 81
Initial Volume: 5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106241
ESS Laboratory Sample ID: 1106241-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/21/11 18:30

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.247)	10	1	06/23/11 4:21		CF12121
Aroclor 1221	ND (0.247)	10	1	06/23/11 4:21		CF12121
Aroclor 1232	ND (0.247)	10	1	06/23/11 4:21		CF12121
Aroclor 1242	ND (0.247)	10	1	06/23/11 4:21		CF12121
Aroclor 1248	6.30 (1.23)	10	5	06/23/11 4:21		CF12121
Aroclor 1254	ND (0.247)	10	1	06/23/11 4:21		CF12121
Aroclor 1260	ND (0.247)	10	1	06/23/11 4:21		CF12121
Aroclor 1262	ND (0.247)	10	1	06/23/11 4:21		CF12121
Aroclor 1268	ND (0.247)	10	1	06/23/11 4:21		CF12121

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	107 %		30-150
Surrogate: Decachlorobiphenyl [2C]	104 %		30-150
Surrogate: Tetrachloro-m-xylene	69 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	110 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-32
Date Sampled: 06/20/11 14:30
Percent Solids: 90
Initial Volume: 5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106241
ESS Laboratory Sample ID: 1106241-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/21/11 18:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.222)	10	1	06/23/11 4:59		CF12121
Aroclor 1221	ND (0.222)	10	1	06/23/11 4:59		CF12121
Aroclor 1232	ND (0.222)	10	1	06/23/11 4:59		CF12121
Aroclor 1242	ND (0.222)	10	1	06/23/11 4:59		CF12121
Aroclor 1248	26.5 (2.22)	10	10	06/23/11 21:34		CF12121
Aroclor 1254	ND (0.222)	10	1	06/23/11 4:59		CF12121
Aroclor 1260	ND (0.222)	10	1	06/23/11 4:59		CF12121
Aroclor 1262	ND (0.222)	10	1	06/23/11 4:59		CF12121
Aroclor 1268	ND (0.222)	10	1	06/23/11 4:59		CF12121

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	99 %		30-150
Surrogate: Decachlorobiphenyl [2C]	110 %		30-150
Surrogate: Tetrachloro-m-xylene	76 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	91 %		30-150



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BAL Laboratory

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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-16B

Date Sampled: 06/20/11 14:35

Percent Solids: 93

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106241

ESS Laboratory Sample ID: 1106241-06

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/21/11 18:30

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.211)	10	1	06/23/11 5:37		CF12121
Aroclor 1221	ND (0.211)	10	1	06/23/11 5:37		CF12121
Aroclor 1232	ND (0.211)	10	1	06/23/11 5:37		CF12121
Aroclor 1242	ND (0.211)	10	1	06/23/11 5:37		CF12121
Aroclor 1248	0.334 (0.211)	10	1	06/23/11 5:37		CF12121
Aroclor 1254	ND (0.211)	10	1	06/23/11 5:37		CF12121
Aroclor 1260	ND (0.211)	10	1	06/23/11 5:37		CF12121
Aroclor 1262	ND (0.211)	10	1	06/23/11 5:37		CF12121
Aroclor 1268	ND (0.211)	10	1	06/23/11 5:37		CF12121

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	115 %		30-150
Surrogate: Decachlorobiphenyl [2C]	111 %		30-150
Surrogate: Tetrachloro-m-xylene	103 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	105 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-17B
Date Sampled: 06/20/11 14:40
Percent Solids: 89
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106241
ESS Laboratory Sample ID: 1106241-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/21/11 18:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.220)	10	1	06/23/11 6:14		CF12121
Aroclor 1221	ND (0.220)	10	1	06/23/11 6:14		CF12121
Aroclor 1232	ND (0.220)	10	1	06/23/11 6:14		CF12121
Aroclor 1242	ND (0.220)	10	1	06/23/11 6:14		CF12121
Aroclor 1248	0.466 (0.220)	10	1	06/23/11 6:14		CF12121
Aroclor 1254	ND (0.220)	10	1	06/23/11 6:14		CF12121
Aroclor 1260	ND (0.220)	10	1	06/23/11 6:14		CF12121
Aroclor 1262	ND (0.220)	10	1	06/23/11 6:14		CF12121
Aroclor 1268	ND (0.220)	10	1	06/23/11 6:14		CF12121

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	108 %		30-150
Surrogate: Decachlorobiphenyl [2C]	101 %		30-150
Surrogate: Tetrachloro-m-xylene	90 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	93 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106241

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082 Polychlorinated Biphenyls (PCB)

Batch CF12121 - 3540

Blank

Aroclor 1016	ND	0.0500	mg/kg wet
Aroclor 1221	ND	0.0500	mg/kg wet
Aroclor 1232	ND	0.0500	mg/kg wet
Aroclor 1242	ND	0.0500	mg/kg wet
Aroclor 1248	ND	0.0500	mg/kg wet
Aroclor 1254	ND	0.0500	mg/kg wet
Aroclor 1260	ND	0.0500	mg/kg wet
Aroclor 1262	ND	0.0500	mg/kg wet
Aroclor 1268	ND	0.0500	mg/kg wet

Surrogate: Decachlorobiphenyl	0.0284		mg/kg wet	0.02500		114	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0257		mg/kg wet	0.02500		103	30-150
Surrogate: Tetrachloro-m-xylene	0.0260		mg/kg wet	0.02500		104	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0269		mg/kg wet	0.02500		108	30-150

LCS

Aroclor 1016	0.479	0.0500	mg/kg wet	0.5000		96	40-140
Aroclor 1260	0.477	0.0500	mg/kg wet	0.5000		95	40-140
Surrogate: Decachlorobiphenyl	0.0301		mg/kg wet	0.02500		120	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0308		mg/kg wet	0.02500		123	30-150
Surrogate: Tetrachloro-m-xylene	0.0266		mg/kg wet	0.02500		106	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0262		mg/kg wet	0.02500		105	30-150

LCS Dup

Aroclor 1016	0.497	0.0500	mg/kg wet	0.5000		99	40-140	4	50
Aroclor 1260	0.509	0.0500	mg/kg wet	0.5000		102	40-140	7	50
Surrogate: Decachlorobiphenyl	0.0304		mg/kg wet	0.02500		121	30-150		
Surrogate: Decachlorobiphenyl [2C]	0.0300		mg/kg wet	0.02500		120	30-150		
Surrogate: Tetrachloro-m-xylene	0.0274		mg/kg wet	0.02500		110	30-150		
Surrogate: Tetrachloro-m-xylene [2C]	0.0272		mg/kg wet	0.02500		109	30-150		

Matrix Spike Source: 1106241-01

Aroclor 1016	2.10	0.218	mg/kg dry	2.179	ND	96	40-140
Aroclor 1260	2.03	0.218	mg/kg dry	2.179	ND	93	40-140
Surrogate: Decachlorobiphenyl	0.116		mg/kg dry	0.1089		106	30-150
Surrogate: Decachlorobiphenyl [2C]	0.104		mg/kg dry	0.1089		96	30-150
Surrogate: Tetrachloro-m-xylene	0.110		mg/kg dry	0.1089		101	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.114		mg/kg dry	0.1089		104	30-150

Matrix Spike Dup Source: 1106241-01

Aroclor 1016	2.31	0.222	mg/kg dry	2.222	ND	104	40-140	10	50
Aroclor 1260	2.19	0.222	mg/kg dry	2.222	ND	99	40-140	8	50
Surrogate: Decachlorobiphenyl	0.125		mg/kg dry	0.1111		112	30-150		
Surrogate: Decachlorobiphenyl [2C]	0.116		mg/kg dry	0.1111		104	30-150		
Surrogate: Tetrachloro-m-xylene	0.109		mg/kg dry	0.1111		98	30-150		



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106241

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082 Polychlorinated Biphenyls (PCB)

Batch CF12121 - 3540

Surrogate: Tetrachloro-m-xylene [2C]	0.119		mg/kg dry	0.1111		107	30-150			
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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106241

Notes and Definitions

U	Analyte included in the analysis, but not detected
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106241

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/labs/waterlabs-instate.php>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/out_state.pdf

Maine Potable and Non Potable Water: RI0002

http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/labcert/labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://www4.egov.nh.gov/des/nhelap/namesearch.asp>

New York (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301

http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

South Carolina Volatile Organic Compounds in Potable Water: 78003

New Jersey Potable (VOA) and Non Potable Water (RCRA), Solids and Hazardous Waste: RI002

<http://www.nj.gov/dep/oqa/certlabs.htm>

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

Sample and Cooler Receipt Checklist

Client: Woodard & Curran

Client Project ID: _____

Shipped/Delivered Via: Client

ESS Project ID: 11060241

Date Project Due: 6/27/11

Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?

☒ No

Air No.:

2. Were Custody Seals Present?

☐ No

3. Were Custody Seals Intact?

☐ N/A

4. Is Radiation count < 100 CPM?

☐ Yes

5. Is a cooler present?

☐ Yes

Cooler Temp: 2.4

Iced With: Ice

6. Was COC included with samples?

☐ Yes

7. Was COC signed and dated by client?

☐ Yes

8. Does the COC match the sample

☐ Yes

9. Is COC complete and correct?

☐ Yes

10. Are the samples properly preserved?

☐ Yes

11. Proper sample containers used?

☐ Yes

12. Any air bubbles in the VOA vials?

☐ N/A

13. Holding times exceeded?

☐ No

14. Sufficient sample volumes?

☐ Yes

15. Any Subcontracting needed?

☐ No

16. Are ESS labels on correct containers?

☒ Yes ☐ No

17. Were samples received intact?

☒ Yes ☐ No

ESS Sample IDs: _____

Sub Lab: _____

Analysis: _____

TAT: _____

18. Was there need to call project manager to discuss status? If yes, please explain.

Who was called?: _____

By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	3	NP
2	Yes	4 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	1	NP

Completed By: mkDate/Time: 6/20/11Reviewed By: 88Date/Time: 6/20/11

ESS Laboratory

Division of Thicksch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 1 of 1

Turn Time 2 Standard Other Other _____
If faster than 5 days, prior approval by laboratory is required # _____
State where samples were collected from:
MA CT NH NJ NY ME Other _____
Is this project for any of the following:
MA-MCP Navy USACE Other

Project # 219303 Project Name (20 Char. or less) Safety-Kleen
Address 95 George St. PO# 02903
City Providence State RI Zip 02903
Telephone # 401.273.1007 Fax # 401.273.5087

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers	TPH 8100 DRO	EPH 8082 EPH 608	PCB 8082 EPH 608	PAH 8270 SVOA 625	RCRA8 PP13 TAL23	TCLP-RCRA8 NBC7	MCP-METALS (13) w/Hg	MCP-METALS (13)
01	6/20/11	11:30	X	S	S	SW-30	1	1	G								
02	6/20/11	11:30	X	S	S	DUP-SW-30	1	1	G								
03	6/20/11	11:30	X	S	S	MS-SW-30	1	1	G								
04	6/20/11	11:30	X	S	S	MSD-SW-30	1	1	G								
05	6/20/11	11:35	X	S	S	SW-31	1	1	G								
06	6/20/11	11:40	X	S	S	VB-28	1	1	G								
07	6/20/11	14:30	X	S	S	SW-32	1	1	G								
08	6/20/11	14:35	X	S	S	VB-16B	1	1	G								
09	6/20/11	14:40	X	S	S	VB-17B	1	1	G								

Container Type: P-Poly G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters
Cooler Present Yes No _____ Internal Use Only Yes No _____ NA: _____
Seals Intact Yes No _____ NA: _____
Cooler Temp: 2.4 °C
Preservation Code: 1-NP 2-HCL 3-H2SO4 4-HNO3 5-NaOH 6-MeOH 7-Asorbic Acid 8-ZnAct 9-_____
Sampled by: SEN DRISCOLL
Comments: 8082 with 3540 EXTENSION

Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>6/20/11 15:25</u>	Relinquished by: (Signature) <u>[Signature]</u>	Date/Time <u>6/20/11 15:25</u>
Received by: (Signature) <u>[Signature]</u>	Date/Time <u>6/20/11 15:25</u>	Received by: (Signature) <u>[Signature]</u>	Date/Time <u>6/20/11 15:25</u>



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CERTIFICATE OF ANALYSIS

Janelle Bonn
Woodard & Curran - RI
95 Cedar Street, Suite 100
Providence, RI 02903

RE: SK Cranston (219303)

ESS Laboratory Work Order Number: 1106263

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director



Digitally signed by Laurel Stoddard
Date: 2011.06.29 16:55:07 -04'00'

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106263

SAMPLE RECEIPT

The following samples were received on June 21, 2011 for the analyses specified on the enclosed Chain of Custody Record.

PCB: Sample Dup-SW-49 (1106263-29) was reported with elevated detection limits due to sample matrix interference. This interference had the characteristics of petroleum hydrocarbons. This duplicate sample had much higher levels of the interference than the associated sample. (SW-49/1106263-28)

<u>Lab Number</u>	<u>SampleName</u>	<u>Matrix</u>	<u>Analysis</u>
1106263-01	VB-29	Soil	8082
1106263-02	VB-30	Soil	8082
1106263-03	VB-31	Soil	8082
1106263-04	VB-32	Soil	8082
1106263-05	VB-33	Soil	8082
1106263-06	SW-33	Soil	8082
1106263-07	SW-34	Soil	8082
1106263-08	SW-35	Soil	8082
1106263-09	SW-36	Soil	8082
1106263-10	SW-37	Soil	8082
1106263-11	SW-38	Soil	8082
1106263-12	SW-39	Soil	8082
1106263-13	SW-40	Soil	8082
1106263-14	SW-41	Soil	8082
1106263-15	SW-42	Soil	8082
1106263-16	VB-34	Soil	8082
1106263-17	VB-35	Soil	8082
1106263-18	VB-36	Soil	8082
1106263-19	VB-37	Soil	8082
1106263-20	VB-2B	Soil	8082
1106263-21	Dup-VB-2B	Soil	8082
1106263-22	SW-43	Soil	8082
1106263-23	SW-44	Soil	8082
1106263-24	SW-45	Soil	8082
1106263-25	SW-46	Soil	8082
1106263-26	SW-47	Soil	8082
1106263-27	SW-48	Soil	8082
1106263-28	SW-49	Soil	8082
1106263-29	Dup-SW-49	Soil	8082
1106263-30	SW-50	Soil	8082
1106263-31	VB-38	Soil	8082
1106263-32	VB-39	Soil	8082



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106263

1106263-33

VB-40

Soil

8082

1106263-34

VB-41

Soil

8082



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106263

PROJECT NARRATIVE

8082 Polychlorinated Biphenyls (PCB)

1106263-24 Surrogate recovery(ies) diluted below the MRL (SD).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

1106263-29 Elevated Method Reporting Limits due to sample matrix (EL).

1106263-29 Surrogate recovery(ies) below lower control limit (S-).
Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%)

1106263-34 Percent difference between primary and confirmation results exceeds 40% (P).
Aroclor 1248

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-29

Date Sampled: 06/21/11 10:45

Percent Solids: 90

Initial Volume: 5

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-01

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.222)	10	1	06/24/11 17:44		CF12326
Aroclor 1221	ND (0.222)	10	1	06/24/11 17:44		CF12326
Aroclor 1232	ND (0.222)	10	1	06/24/11 17:44		CF12326
Aroclor 1242	ND (0.222)	10	1	06/24/11 17:44		CF12326
Aroclor 1248	ND (0.222)	10	1	06/24/11 17:44		CF12326
Aroclor 1254	ND (0.222)	10	1	06/24/11 17:44		CF12326
Aroclor 1260	ND (0.222)	10	1	06/24/11 17:44		CF12326
Aroclor 1262	ND (0.222)	10	1	06/24/11 17:44		CF12326
Aroclor 1268	ND (0.222)	10	1	06/24/11 17:44		CF12326

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	115 %		30-150
Surrogate: Decachlorobiphenyl [2C]	108 %		30-150
Surrogate: Tetrachloro-m-xylene	105 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	111 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-30
Date Sampled: 06/21/11 10:48
Percent Solids: 91
Initial Volume: 5.6
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.196)	10	1	06/24/11 18:22		CF12326
Aroclor 1221	ND (0.196)	10	1	06/24/11 18:22		CF12326
Aroclor 1232	ND (0.196)	10	1	06/24/11 18:22		CF12326
Aroclor 1242	ND (0.196)	10	1	06/24/11 18:22		CF12326
Aroclor 1248	0.209 (0.196)	10	1	06/24/11 18:22		CF12326
Aroclor 1254	ND (0.196)	10	1	06/24/11 18:22		CF12326
Aroclor 1260	ND (0.196)	10	1	06/24/11 18:22		CF12326
Aroclor 1262	ND (0.196)	10	1	06/24/11 18:22		CF12326
Aroclor 1268	ND (0.196)	10	1	06/24/11 18:22		CF12326

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	113 %		30-150
Surrogate: Decachlorobiphenyl [2C]	107 %		30-150
Surrogate: Tetrachloro-m-xylene	101 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	106 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-31

Date Sampled: 06/21/11 10:51

Percent Solids: 87

Initial Volume: 5.7

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-03

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.202)	10	1	06/24/11 18:59		CF12326
Aroclor 1221	ND (0.202)	10	1	06/24/11 18:59		CF12326
Aroclor 1232	ND (0.202)	10	1	06/24/11 18:59		CF12326
Aroclor 1242	ND (0.202)	10	1	06/24/11 18:59		CF12326
Aroclor 1248	ND (0.202)	10	1	06/24/11 18:59		CF12326
Aroclor 1254	ND (0.202)	10	1	06/24/11 18:59		CF12326
Aroclor 1260	ND (0.202)	10	1	06/24/11 18:59		CF12326
Aroclor 1262	ND (0.202)	10	1	06/24/11 18:59		CF12326
Aroclor 1268	ND (0.202)	10	1	06/24/11 18:59		CF12326

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	101 %		30-150
Surrogate: Decachlorobiphenyl [ZC]	97 %		30-150
Surrogate: Tetrachloro-m-xylene	91 %		30-150
Surrogate: Tetrachloro-m-xylene [ZC]	94 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-32
Date Sampled: 06/21/11 10:55
Percent Solids: 89
Initial Volume: 5.5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.204)	10	1	06/24/11 19:37		CF12326
Aroclor 1221	ND (0.204)	10	1	06/24/11 19:37		CF12326
Aroclor 1232	ND (0.204)	10	1	06/24/11 19:37		CF12326
Aroclor 1242	ND (0.204)	10	1	06/24/11 19:37		CF12326
Aroclor 1248	ND (0.204)	10	1	06/24/11 19:37		CF12326
Aroclor 1254	0.445 (0.204)	10	1	06/24/11 19:37		CF12326
Aroclor 1260	ND (0.204)	10	1	06/24/11 19:37		CF12326
Aroclor 1262	ND (0.204)	10	1	06/24/11 19:37		CF12326
Aroclor 1268	ND (0.204)	10	1	06/24/11 19:37		CF12326

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	99 %		30-150
Surrogate: Decachlorobiphenyl [2C]	97 %		30-150
Surrogate: Tetrachloro-m-xylene	93 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	96 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-33

Date Sampled: 06/21/11 10:59

Percent Solids: 85

Initial Volume: 5.4

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-05

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.218)	10	1	06/24/11 20:15		CF12326
Aroclor 1221	ND (0.218)	10	1	06/24/11 20:15		CF12326
Aroclor 1232	ND (0.218)	10	1	06/24/11 20:15		CF12326
Aroclor 1242	ND (0.218)	10	1	06/24/11 20:15		CF12326
Aroclor 1248	ND (0.218)	10	1	06/24/11 20:15		CF12326
Aroclor 1254	0.370 (0.218)	10	1	06/24/11 20:15		CF12326
Aroclor 1260	ND (0.218)	10	1	06/24/11 20:15		CF12326
Aroclor 1262	ND (0.218)	10	1	06/24/11 20:15		CF12326
Aroclor 1268	ND (0.218)	10	1	06/24/11 20:15		CF12326

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	88 %		30-150
Surrogate: Decachlorobiphenyl [2C]	89 %		30-150
Surrogate: Tetrachloro-m-xylene	81 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	88 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-33
Date Sampled: 06/21/11 11:02
Percent Solids: 89
Initial Volume: 5.8
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.194)	10	1	06/24/11 20:53		CF12326
Aroclor 1221	ND (0.194)	10	1	06/24/11 20:53		CF12326
Aroclor 1232	ND (0.194)	10	1	06/24/11 20:53		CF12326
Aroclor 1242	ND (0.194)	10	1	06/24/11 20:53		CF12326
Aroclor 1248	ND (0.194)	10	1	06/24/11 20:53		CF12326
Aroclor 1254	0.289 (0.194)	10	1	06/24/11 20:53		CF12326
Aroclor 1260	ND (0.194)	10	1	06/24/11 20:53		CF12326
Aroclor 1262	ND (0.194)	10	1	06/24/11 20:53		CF12326
Aroclor 1268	ND (0.194)	10	1	06/24/11 20:53		CF12326

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	108 %		30-150
Surrogate: Decachlorobiphenyl [2C]	106 %		30-150
Surrogate: Tetrachloro-m-xylene	113 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	101 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-34

Date Sampled: 06/21/11 11:04

Percent Solids: 92

Initial Volume: 5.6

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-07

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.194)	10	1	06/24/11 21:30		CF12326
Aroclor 1221	ND (0.194)	10	1	06/24/11 21:30		CF12326
Aroclor 1232	ND (0.194)	10	1	06/24/11 21:30		CF12326
Aroclor 1242	ND (0.194)	10	1	06/24/11 21:30		CF12326
Aroclor 1248	ND (0.194)	10	1	06/24/11 21:30		CF12326
Aroclor 1254	2.06 (0.194)	10	1	06/24/11 21:30		CF12326
Aroclor 1260	ND (0.194)	10	1	06/24/11 21:30		CF12326
Aroclor 1262	ND (0.194)	10	1	06/24/11 21:30		CF12326
Aroclor 1268	ND (0.194)	10	1	06/24/11 21:30		CF12326

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	108 %		30-150
Surrogate: Decachlorobiphenyl [2C]	101 %		30-150
Surrogate: Tetrachloro-m-xylene	85 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	91 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-35
Date Sampled: 06/21/11 11:08
Percent Solids: 88
Initial Volume: 5.7
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.199)	10	1	06/24/11 22:08		CF12326
Aroclor 1221	ND (0.199)	10	1	06/24/11 22:08		CF12326
Aroclor 1232	ND (0.199)	10	1	06/24/11 22:08		CF12326
Aroclor 1242	ND (0.199)	10	1	06/24/11 22:08		CF12326
Aroclor 1248	2.73 (0.199)	10	1	06/24/11 22:08		CF12326
Aroclor 1254	6.21 (0.997)	10	5	06/27/11 11:55		CF12326
Aroclor 1260	ND (0.199)	10	1	06/24/11 22:08		CF12326
Aroclor 1262	ND (0.199)	10	1	06/24/11 22:08		CF12326
Aroclor 1268	ND (0.199)	10	1	06/24/11 22:08		CF12326

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	106 %		30-150
Surrogate: Decachlorobiphenyl [2C]	105 %		30-150
Surrogate: Tetrachloro-m-xylene	104 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	100 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-36

Date Sampled: 06/21/11 11:12

Percent Solids: 85

Initial Volume: 5.8

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-09

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.203)	10	1	06/24/11 22:46		CF12326
Aroclor 1221	ND (0.203)	10	1	06/24/11 22:46		CF12326
Aroclor 1232	ND (0.203)	10	1	06/24/11 22:46		CF12326
Aroclor 1242	ND (0.203)	10	1	06/24/11 22:46		CF12326
Aroclor 1248	ND (0.203)	10	1	06/24/11 22:46		CF12326
Aroclor 1254	1.39 (0.203)	10	1	06/24/11 22:46		CF12326
Aroclor 1260	ND (0.203)	10	1	06/24/11 22:46		CF12326
Aroclor 1262	ND (0.203)	10	1	06/24/11 22:46		CF12326
Aroclor 1268	ND (0.203)	10	1	06/24/11 22:46		CF12326

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	119 %		30-150
Surrogate: Decachlorobiphenyl [2C]	103 %		30-150
Surrogate: Tetrachloro-m-xylene	108 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	107 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-37
Date Sampled: 06/21/11 11:16
Percent Solids: 89
Initial Volume: 5.4
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.208)	10	1	06/24/11 23:23		CF12326
Aroclor 1221	ND (0.208)	10	1	06/24/11 23:23		CF12326
Aroclor 1232	ND (0.208)	10	1	06/24/11 23:23		CF12326
Aroclor 1242	ND (0.208)	10	1	06/24/11 23:23		CF12326
Aroclor 1248	ND (0.208)	10	1	06/24/11 23:23		CF12326
Aroclor 1254	3.88 (0.208)	10	1	06/24/11 23:23		CF12326
Aroclor 1260	ND (0.208)	10	1	06/24/11 23:23		CF12326
Aroclor 1262	ND (0.208)	10	1	06/24/11 23:23		CF12326
Aroclor 1268	ND (0.208)	10	1	06/24/11 23:23		CF12326

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	120 %		30-150
Surrogate: Decachlorobiphenyl [2C]	108 %		30-150
Surrogate: Tetrachloro-m-xylene	102 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	98 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-38

Date Sampled: 06/21/11 13:30

Percent Solids: 84

Initial Volume: 5.4

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-11

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.220)	10	1	06/25/11 1:54		CF12326
Aroclor 1221	ND (0.220)	10	1	06/25/11 1:54		CF12326
Aroclor 1232	ND (0.220)	10	1	06/25/11 1:54		CF12326
Aroclor 1242	ND (0.220)	10	1	06/25/11 1:54		CF12326
Aroclor 1248	2.30 (0.220)	10	1	06/25/11 1:54		CF12326
Aroclor 1254	6.69 (1.10)	10	5	06/27/11 12:12		CF12326
Aroclor 1260	ND (0.220)	10	1	06/25/11 1:54		CF12326
Aroclor 1262	ND (0.220)	10	1	06/25/11 1:54		CF12326
Aroclor 1268	ND (0.220)	10	1	06/25/11 1:54		CF12326

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	118 %		30-150
Surrogate: Decachlorobiphenyl [2C]	104 %		30-150
Surrogate: Tetrachloro-m-xylene	89 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	94 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-39
Date Sampled: 06/21/11 13:33
Percent Solids: 76
Initial Volume: 5.4
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-12
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.244)	10	1	06/25/11 2:32		CF12326
Aroclor 1221	ND (0.244)	10	1	06/25/11 2:32		CF12326
Aroclor 1232	ND (0.244)	10	1	06/25/11 2:32		CF12326
Aroclor 1242	ND (0.244)	10	1	06/25/11 2:32		CF12326
Aroclor 1248	9.19 (2.44)	10	10	06/27/11 12:31		CF12326
Aroclor 1254	15.9 (2.44)	10	10	06/27/11 12:31		CF12326
Aroclor 1260	ND (0.244)	10	1	06/25/11 2:32		CF12326
Aroclor 1262	ND (0.244)	10	1	06/25/11 2:32		CF12326
Aroclor 1268	ND (0.244)	10	1	06/25/11 2:32		CF12326

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	118 %		30-150
Surrogate: Decachlorobiphenyl [2C]	118 %		30-150
Surrogate: Tetrachloro-m-xylene	82 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	97 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-40

Date Sampled: 06/21/11 13:36

Percent Solids: 79

Initial Volume: 5.6

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-13

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.226)	10	1	06/25/11 3:10		CF12326
Aroclor 1221	ND (0.226)	10	1	06/25/11 3:10		CF12326
Aroclor 1232	ND (0.226)	10	1	06/25/11 3:10		CF12326
Aroclor 1242	ND (0.226)	10	1	06/25/11 3:10		CF12326
Aroclor 1248	12.8 (2.26)	10	10	06/27/11 12:49		CF12326
Aroclor 1254	18.1 (2.26)	10	10	06/27/11 12:49		CF12326
Aroclor 1260	ND (0.226)	10	1	06/25/11 3:10		CF12326
Aroclor 1262	ND (0.226)	10	1	06/25/11 3:10		CF12326
Aroclor 1268	ND (0.226)	10	1	06/25/11 3:10		CF12326

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	111 %		30-150
Surrogate: Decachlorobiphenyl [2C]	106 %		30-150
Surrogate: Tetrachloro-m-xylene	89 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	103 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-41
Date Sampled: 06/21/11 13:39
Percent Solids: 76
Initial Volume: 5.6
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-14
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.235)	10	1	06/25/11 3:47		CF12326
Aroclor 1221	ND (0.235)	10	1	06/25/11 3:47		CF12326
Aroclor 1232	ND (0.235)	10	1	06/25/11 3:47		CF12326
Aroclor 1242	ND (0.235)	10	1	06/25/11 3:47		CF12326
Aroclor 1248	21.0 (2.35)	10	10	06/27/11 13:08		CF12326
Aroclor 1254	26.1 (2.35)	10	10	06/27/11 13:08		CF12326
Aroclor 1260	ND (0.235)	10	1	06/25/11 3:47		CF12326
Aroclor 1262	ND (0.235)	10	1	06/25/11 3:47		CF12326
Aroclor 1268	ND (0.235)	10	1	06/25/11 3:47		CF12326

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	118 %		30-150
Surrogate: Decachlorobiphenyl [2C]	104 %		30-150
Surrogate: Tetrachloro-m-xylene	80 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	99 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-42

Date Sampled: 06/21/11 13:42

Percent Solids: 80

Initial Volume: 5.3

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-15

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

Analyte	Results (MRL)	RI - RES DEC		Analyzed	Sequence	Batch
		Limit	DF			
Aroclor 1016	ND (0.236)	10	1	06/25/11 4:25		CF12326
Aroclor 1221	ND (0.236)	10	1	06/25/11 4:25		CF12326
Aroclor 1232	ND (0.236)	10	1	06/25/11 4:25		CF12326
Aroclor 1242	ND (0.236)	10	1	06/25/11 4:25		CF12326
Aroclor 1248	3.68 (0.236)	10	1	06/25/11 4:25		CF12326
Aroclor 1254	10.3 (1.18)	10	5	06/27/11 13:27		CF12326
Aroclor 1260	ND (0.236)	10	1	06/25/11 4:25		CF12326
Aroclor 1262	ND (0.236)	10	1	06/25/11 4:25		CF12326
Aroclor 1268	ND (0.236)	10	1	06/25/11 4:25		CF12326

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	122 %		30-150
Surrogate: Decachlorobiphenyl [2C]	113 %		30-150
Surrogate: Tetrachloro-m-xylene	81 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	98 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-34
Date Sampled: 06/21/11 13:45
Percent Solids: 80
Initial Volume: 6
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-16
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.208)	10	1	06/25/11 5:03		CF12326
Aroclor 1221	ND (0.208)	10	1	06/25/11 5:03		CF12326
Aroclor 1232	ND (0.208)	10	1	06/25/11 5:03		CF12326
Aroclor 1242	ND (0.208)	10	1	06/25/11 5:03		CF12326
Aroclor 1248	0.782 (0.208)	10	1	06/25/11 5:03		CF12326
Aroclor 1254	1.34 (0.208)	10	1	06/25/11 5:03		CF12326
Aroclor 1260	ND (0.208)	10	1	06/25/11 5:03		CF12326
Aroclor 1262	ND (0.208)	10	1	06/25/11 5:03		CF12326
Aroclor 1268	ND (0.208)	10	1	06/25/11 5:03		CF12326

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	104 %		30-150
Surrogate: Decachlorobiphenyl [2C]	114 %		30-150
Surrogate: Tetrachloro-m-xylene	103 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	105 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-35

Date Sampled: 06/21/11 13:48

Percent Solids: 78

Initial Volume: 5.6

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-17

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.229)	10	1	06/25/11 5:40		CF12326
Aroclor 1221	ND (0.229)	10	1	06/25/11 5:40		CF12326
Aroclor 1232	ND (0.229)	10	1	06/25/11 5:40		CF12326
Aroclor 1242	ND (0.229)	10	1	06/25/11 5:40		CF12326
Aroclor 1248	2.05 (0.229)	10	1	06/25/11 5:40		CF12326
Aroclor 1254	3.20 (0.229)	10	1	06/25/11 5:40		CF12326
Aroclor 1260	ND (0.229)	10	1	06/25/11 5:40		CF12326
Aroclor 1262	ND (0.229)	10	1	06/25/11 5:40		CF12326
Aroclor 1268	ND (0.229)	10	1	06/25/11 5:40		CF12326

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	108 %		30-150
Surrogate: Decachlorobiphenyl [2C]	108 %		30-150
Surrogate: Tetrachloro-m-xylene	115 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	103 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-36
Date Sampled: 06/21/11 13:53
Percent Solids: 93
Initial Volume: 5.7
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-18
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.189)	10	1	06/25/11 6:18		CF12326
Aroclor 1221	ND (0.189)	10	1	06/25/11 6:18		CF12326
Aroclor 1232	ND (0.189)	10	1	06/25/11 6:18		CF12326
Aroclor 1242	ND (0.189)	10	1	06/25/11 6:18		CF12326
Aroclor 1248	0.262 (0.189)	10	1	06/25/11 6:18		CF12326
Aroclor 1254	0.337 (0.189)	10	1	06/25/11 6:18		CF12326
Aroclor 1260	ND (0.189)	10	1	06/25/11 6:18		CF12326
Aroclor 1262	ND (0.189)	10	1	06/25/11 6:18		CF12326
Aroclor 1268	ND (0.189)	10	1	06/25/11 6:18		CF12326

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	114 %		30-150
Surrogate: Decachlorobiphenyl [2C]	109 %		30-150
Surrogate: Tetrachloro-m-xylene	109 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	114 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-37

Date Sampled: 06/21/11 13:56

Percent Solids: 88

Initial Volume: 5.2

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-19

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.219)	10	1	06/25/11 6:56		CF12326
Aroclor 1221	ND (0.219)	10	1	06/25/11 6:56		CF12326
Aroclor 1232	ND (0.219)	10	1	06/25/11 6:56		CF12326
Aroclor 1242	ND (0.219)	10	1	06/25/11 6:56		CF12326
Aroclor 1248	2.12 (0.219)	10	1	06/25/11 6:56		CF12326
Aroclor 1254	3.41 (0.219)	10	1	06/25/11 6:56		CF12326
Aroclor 1260	ND (0.219)	10	1	06/25/11 6:56		CF12326
Aroclor 1262	ND (0.219)	10	1	06/25/11 6:56		CF12326
Aroclor 1268	ND (0.219)	10	1	06/25/11 6:56		CF12326

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	110 %		30-150
Surrogate: Decachlorobiphenyl [2C]	115 %		30-150
Surrogate: Tetrachloro-m-xylene	127 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	109 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-2B
Date Sampled: 06/21/11 13:59
Percent Solids: 93
Initial Volume: 5.5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-20
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/23/11 17:30

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.196)	10	1	06/25/11 7:34		CF12326
Aroclor 1221	ND (0.196)	10	1	06/25/11 7:34		CF12326
Aroclor 1232	ND (0.196)	10	1	06/25/11 7:34		CF12326
Aroclor 1242	ND (0.196)	10	1	06/25/11 7:34		CF12326
Aroclor 1248	ND (0.196)	10	1	06/25/11 7:34		CF12326
Aroclor 1254	ND (0.196)	10	1	06/25/11 7:34		CF12326
Aroclor 1260	ND (0.196)	10	1	06/25/11 7:34		CF12326
Aroclor 1262	ND (0.196)	10	1	06/25/11 7:34		CF12326
Aroclor 1268	ND (0.196)	10	1	06/25/11 7:34		CF12326

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	116 %		30-150
Surrogate: Decachlorobiphenyl [2C]	109 %		30-150
Surrogate: Tetrachloro-m-xylene	107 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	112 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: Dup-VB-2B
Date Sampled: 06/21/11 13:59
Percent Solids: 95
Initial Volume: 5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-21
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/24/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.211)	10	1	06/27/11 19:06		CF12424
Aroclor 1221	ND (0.211)	10	1	06/27/11 19:06		CF12424
Aroclor 1232	ND (0.211)	10	1	06/27/11 19:06		CF12424
Aroclor 1242	ND (0.211)	10	1	06/27/11 19:06		CF12424
Aroclor 1248	ND (0.211)	10	1	06/27/11 19:06		CF12424
Aroclor 1254	ND (0.211)	10	1	06/27/11 19:06		CF12424
Aroclor 1260	ND (0.211)	10	1	06/27/11 19:06		CF12424
Aroclor 1262	ND (0.211)	10	1	06/27/11 19:06		CF12424
Aroclor 1268	ND (0.211)	10	1	06/27/11 19:06		CF12424

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	97 %		30-150
Surrogate: Decachlorobiphenyl [2C]	93 %		30-150
Surrogate: Tetrachloro-m-xylene	90 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	95 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-43
Date Sampled: 06/21/11 15:00
Percent Solids: 92
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-22
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/24/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.213)	10	1	06/27/11 19:44		CF12424
Aroclor 1221	ND (0.213)	10	1	06/27/11 19:44		CF12424
Aroclor 1232	ND (0.213)	10	1	06/27/11 19:44		CF12424
Aroclor 1242	ND (0.213)	10	1	06/27/11 19:44		CF12424
Aroclor 1248	ND (0.213)	10	1	06/27/11 19:44		CF12424
Aroclor 1254	ND (0.213)	10	1	06/27/11 19:44		CF12424
Aroclor 1260	ND (0.213)	10	1	06/27/11 19:44		CF12424
Aroclor 1262	ND (0.213)	10	1	06/27/11 19:44		CF12424
Aroclor 1268	ND (0.213)	10	1	06/27/11 19:44		CF12424

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	76 %		30-150
Surrogate: Decachlorobiphenyl [2C]	79 %		30-150
Surrogate: Tetrachloro-m-xylene	77 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	80 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-44

Date Sampled: 06/21/11 15:03

Percent Solids: 91

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-23

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/24/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.215)	10	1	06/27/11 20:21		CF12424
Aroclor 1221	ND (0.215)	10	1	06/27/11 20:21		CF12424
Aroclor 1232	ND (0.215)	10	1	06/27/11 20:21		CF12424
Aroclor 1242	ND (0.215)	10	1	06/27/11 20:21		CF12424
Aroclor 1248	2.27 (0.215)	10	1	06/27/11 20:21		CF12424
Aroclor 1254	7.75 (1.08)	10	5	06/28/11 9:13		CF12424
Aroclor 1260	ND (0.215)	10	1	06/27/11 20:21		CF12424
Aroclor 1262	ND (0.215)	10	1	06/27/11 20:21		CF12424
Aroclor 1268	ND (0.215)	10	1	06/27/11 20:21		CF12424

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	96 %		30-150
Surrogate: Decachlorobiphenyl [2C]	82 %		30-150
Surrogate: Tetrachloro-m-xylene	75 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	73 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-45
Date Sampled: 06/21/11 15:06
Percent Solids: 90
Initial Volume: 5.7
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-24
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/24/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (19.5)	10	100	06/28/11 9:51		CF12424
Aroclor 1221	ND (19.5)	10	100	06/28/11 9:51		CF12424
Aroclor 1232	ND (19.5)	10	100	06/28/11 9:51		CF12424
Aroclor 1242	ND (19.5)	10	100	06/28/11 9:51		CF12424
Aroclor 1248	110 (19.5)	10	100	06/28/11 9:51		CF12424
Aroclor 1254	ND (19.5)	10	100	06/28/11 9:51		CF12424
Aroclor 1260	ND (19.5)	10	100	06/28/11 9:51		CF12424
Aroclor 1262	ND (19.5)	10	100	06/28/11 9:51		CF12424
Aroclor 1268	ND (19.5)	10	100	06/28/11 9:51		CF12424

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-46

Date Sampled: 06/21/11 15:09

Percent Solids: 89

Initial Volume: 5

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-25

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/24/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.225)	10	1	06/27/11 21:37		CF12424
Aroclor 1221	ND (0.225)	10	1	06/27/11 21:37		CF12424
Aroclor 1232	ND (0.225)	10	1	06/27/11 21:37		CF12424
Aroclor 1242	ND (0.225)	10	1	06/27/11 21:37		CF12424
Aroclor 1248	9.63 (2.25)	10	10	06/28/11 10:29		CF12424
Aroclor 1254	18.3 (2.25)	10	10	06/28/11 10:29		CF12424
Aroclor 1260	ND (0.225)	10	1	06/27/11 21:37		CF12424
Aroclor 1262	ND (0.225)	10	1	06/27/11 21:37		CF12424
Aroclor 1268	ND (0.225)	10	1	06/27/11 21:37		CF12424

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	88 %		30-150
Surrogate: Decachlorobiphenyl [2C]	92 %		30-150
Surrogate: Tetrachloro-m-xylene	88 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	80 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-47
Date Sampled: 06/21/11 15:12
Percent Solids: 92
Initial Volume: 5.3
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-26
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/24/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.205)	10	1	06/27/11 22:14		CF12424
Aroclor 1221	ND (0.205)	10	1	06/27/11 22:14		CF12424
Aroclor 1232	ND (0.205)	10	1	06/27/11 22:14		CF12424
Aroclor 1242	ND (0.205)	10	1	06/27/11 22:14		CF12424
Aroclor 1248	ND (0.205)	10	1	06/27/11 22:14		CF12424
Aroclor 1254	2.76 (0.205)	10	1	06/27/11 22:14		CF12424
Aroclor 1260	ND (0.205)	10	1	06/27/11 22:14		CF12424
Aroclor 1262	ND (0.205)	10	1	06/27/11 22:14		CF12424
Aroclor 1268	ND (0.205)	10	1	06/27/11 22:14		CF12424

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	83 %		30-150
Surrogate: Decachlorobiphenyl [2C]	77 %		30-150
Surrogate: Tetrachloro-m-xylene	66 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	64 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-48

Date Sampled: 06/21/11 15:15

Percent Solids: 90

Initial Volume: 5

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-27

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/24/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.222)	10	1	06/27/11 22:52		CF12424
Aroclor 1221	ND (0.222)	10	1	06/27/11 22:52		CF12424
Aroclor 1232	ND (0.222)	10	1	06/27/11 22:52		CF12424
Aroclor 1242	ND (0.222)	10	1	06/27/11 22:52		CF12424
Aroclor 1248	ND (0.222)	10	1	06/27/11 22:52		CF12424
Aroclor 1254	2.94 (0.222)	10	1	06/27/11 22:52		CF12424
Aroclor 1260	ND (0.222)	10	1	06/27/11 22:52		CF12424
Aroclor 1262	ND (0.222)	10	1	06/27/11 22:52		CF12424
Aroclor 1268	ND (0.222)	10	1	06/27/11 22:52		CF12424

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	107 %		30-150
Surrogate: Decachlorobiphenyl [2C]	97 %		30-150
Surrogate: Tetrachloro-m-xylene	74 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	69 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-49
Date Sampled: 06/21/11 15:18
Percent Solids: 89
Initial Volume: 5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-28
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/24/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.225)	10	1	06/28/11 1:23		CF12424
Aroclor 1221	ND (0.225)	10	1	06/28/11 1:23		CF12424
Aroclor 1232	ND (0.225)	10	1	06/28/11 1:23		CF12424
Aroclor 1242	ND (0.225)	10	1	06/28/11 1:23		CF12424
Aroclor 1248	ND (0.225)	10	1	06/28/11 1:23		CF12424
Aroclor 1254	2.23 (0.225)	10	1	06/28/11 1:23		CF12424
Aroclor 1260	ND (0.225)	10	1	06/28/11 1:23		CF12424
Aroclor 1262	ND (0.225)	10	1	06/28/11 1:23		CF12424
Aroclor 1268	ND (0.225)	10	1	06/28/11 1:23		CF12424

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	58 %		30-150
Surrogate: Decachlorobiphenyl [2C]	54 %		30-150
Surrogate: Tetrachloro-m-xylene	41 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	42 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: Dup-SW-49

Date Sampled: 06/21/11 15:18

Percent Solids: 90

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-29

Sample Matrix: Soil

Units: mg/kg dry

Analyst: ML

Prepared: 6/24/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (2.18)	10	10	06/29/11 12:14		CF12424
Aroclor 1221	ND (2.18)	10	10	06/29/11 12:14		CF12424
Aroclor 1232	ND (2.18)	10	10	06/29/11 12:14		CF12424
Aroclor 1242	ND (2.18)	10	10	06/29/11 12:14		CF12424
Aroclor 1248	ND (2.18)	10	10	06/29/11 12:14		CF12424
Aroclor 1254	ND (2.18)	10	10	06/29/11 12:14		CF12424
Aroclor 1260	ND (2.18)	10	10	06/29/11 12:14		CF12424
Aroclor 1262	ND (2.18)	10	10	06/29/11 12:14		CF12424
Aroclor 1268	ND (2.18)	10	10	06/29/11 12:14		CF12424

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	S-	30-150
Surrogate: Decachlorobiphenyl [2C]	%	S-	30-150
Surrogate: Tetrachloro-m-xylene	89 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	90 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-50
Date Sampled: 06/21/11 15:21
Percent Solids: 89
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-30
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/24/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.220)	10	1	06/28/11 3:53		CF12424
Aroclor 1221	ND (0.220)	10	1	06/28/11 3:53		CF12424
Aroclor 1232	ND (0.220)	10	1	06/28/11 3:53		CF12424
Aroclor 1242	ND (0.220)	10	1	06/28/11 3:53		CF12424
Aroclor 1248	1.78 (0.220)	10	1	06/28/11 3:53		CF12424
Aroclor 1254	3.24 (0.220)	10	1	06/28/11 3:53		CF12424
Aroclor 1260	ND (0.220)	10	1	06/28/11 3:53		CF12424
Aroclor 1262	ND (0.220)	10	1	06/28/11 3:53		CF12424
Aroclor 1268	ND (0.220)	10	1	06/28/11 3:53		CF12424

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	99 %		30-150
Surrogate: Decachlorobiphenyl [2C]	92 %		30-150
Surrogate: Tetrachloro-m-xylene	73 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	72 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-38

Date Sampled: 06/21/11 15:24

Percent Solids: 91

Initial Volume: 5.2

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-31

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/24/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.211)	10	1	06/28/11 4:31		CF12424
Aroclor 1221	ND (0.211)	10	1	06/28/11 4:31		CF12424
Aroclor 1232	ND (0.211)	10	1	06/28/11 4:31		CF12424
Aroclor 1242	ND (0.211)	10	1	06/28/11 4:31		CF12424
Aroclor 1248	ND (0.211)	10	1	06/28/11 4:31		CF12424
Aroclor 1254	0.637 (0.211)	10	1	06/28/11 4:31		CF12424
Aroclor 1260	ND (0.211)	10	1	06/28/11 4:31		CF12424
Aroclor 1262	ND (0.211)	10	1	06/28/11 4:31		CF12424
Aroclor 1268	ND (0.211)	10	1	06/28/11 4:31		CF12424

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	87 %		30-150
Surrogate: Decachlorobiphenyl [2C]	89 %		30-150
Surrogate: Tetrachloro-m-xylene	83 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	85 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-39
Date Sampled: 06/21/11 15:27
Percent Solids: 96
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-32
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/24/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analvte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.204)	10	1	06/28/11 5:09		CF12424
Aroclor 1221	ND (0.204)	10	1	06/28/11 5:09		CF12424
Aroclor 1232	ND (0.204)	10	1	06/28/11 5:09		CF12424
Aroclor 1242	ND (0.204)	10	1	06/28/11 5:09		CF12424
Aroclor 1248	ND (0.204)	10	1	06/28/11 5:09		CF12424
Aroclor 1254	0.280 (0.204)	10	1	06/28/11 5:09		CF12424
Aroclor 1260	ND (0.204)	10	1	06/28/11 5:09		CF12424
Aroclor 1262	ND (0.204)	10	1	06/28/11 5:09		CF12424
Aroclor 1268	ND (0.204)	10	1	06/28/11 5:09		CF12424

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	74 %		30-150
Surrogate: Decachlorobiphenyl [2C]	77 %		30-150
Surrogate: Tetrachloro-m-xylene	69 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	72 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-40

Date Sampled: 06/21/11 15:30

Percent Solids: 91

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-33

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/24/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.215)	10	1	06/28/11 5:46		CF12424
Aroclor 1221	ND (0.215)	10	1	06/28/11 5:46		CF12424
Aroclor 1232	ND (0.215)	10	1	06/28/11 5:46		CF12424
Aroclor 1242	ND (0.215)	10	1	06/28/11 5:46		CF12424
Aroclor 1248	ND (0.215)	10	1	06/28/11 5:46		CF12424
Aroclor 1254	ND (0.215)	10	1	06/28/11 5:46		CF12424
Aroclor 1260	ND (0.215)	10	1	06/28/11 5:46		CF12424
Aroclor 1262	ND (0.215)	10	1	06/28/11 5:46		CF12424
Aroclor 1268	ND (0.215)	10	1	06/28/11 5:46		CF12424

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	88 %		30-150
Surrogate: Decachlorobiphenyl [2C]	91 %		30-150
Surrogate: Tetrachloro-m-xylene	86 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	90 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-41
Date Sampled: 06/21/11 15:33
Percent Solids: 91
Initial Volume: 5.2
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106263
ESS Laboratory Sample ID: 1106263-34
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/24/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.211)	10	1	06/28/11 6:24		CF12424
Aroclor 1221	ND (0.211)	10	1	06/28/11 6:24		CF12424
Aroclor 1232	ND (0.211)	10	1	06/28/11 6:24		CF12424
Aroclor 1242	ND (0.211)	10	1	06/28/11 6:24		CF12424
Aroclor 1248	P 3.35 (0.211)	10	1	06/28/11 6:24		CF12424
Aroclor 1254	6.64 (1.06)	10	5	06/28/11 11:06		CF12424
Aroclor 1260	ND (0.211)	10	1	06/28/11 6:24		CF12424
Aroclor 1262	ND (0.211)	10	1	06/28/11 6:24		CF12424
Aroclor 1268	ND (0.211)	10	1	06/28/11 6:24		CF12424

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	107 %		30-150
Surrogate: Decachlorobiphenyl [2C]	83 %		30-150
Surrogate: Tetrachloro-m-xylene	78 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	77 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-41

Date Sampled: 06/21/11 15:33

Percent Solids: 91

Initial Volume: 5.2

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1106263

ESS Laboratory Sample ID: 1106263-34RE1

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 6/24/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (1.06)	10	5	06/28/11 11:06		CF12424
Aroclor 1221	ND (1.06)	10	5	06/28/11 11:06		CF12424
Aroclor 1232	ND (1.06)	10	5	06/28/11 11:06		CF12424
Aroclor 1242	ND (1.06)	10	5	06/28/11 11:06		CF12424
Aroclor 1248	3.53 (1.06)	10	5	06/28/11 11:06		CF12424
Aroclor 1254	6.64 (1.06)	10	5	06/28/11 11:06		CF12424
Aroclor 1260	ND (1.06)	10	5	06/28/11 11:06		CF12424
Aroclor 1262	ND (1.06)	10	5	06/28/11 11:06		CF12424
Aroclor 1268	ND (1.06)	10	5	06/28/11 11:06		CF12424

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	110 %		30-150
Surrogate: Decachlorobiphenyl [2C]	95 %		30-150
Surrogate: Tetrachloro-m-xylene	81 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	73 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106263

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082 Polychlorinated Biphenyls (PCB)

Batch CF12326 - 3540

Blank

Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1221	ND	0.0500	mg/kg wet							
Aroclor 1232	ND	0.0500	mg/kg wet							
Aroclor 1242	ND	0.0500	mg/kg wet							
Aroclor 1248	ND	0.0500	mg/kg wet							
Aroclor 1254	ND	0.0500	mg/kg wet							
Aroclor 1260	ND	0.0500	mg/kg wet							
Aroclor 1262	ND	0.0500	mg/kg wet							
Aroclor 1268	ND	0.0500	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0284		mg/kg wet	0.02500		114	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0267		mg/kg wet	0.02500		107	30-150			
Surrogate: Tetrachloro-m-xylene	0.0248		mg/kg wet	0.02500		99	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0263		mg/kg wet	0.02500		105	30-150			

LCS

Aroclor 1016	0.482	0.0500	mg/kg wet	0.5000		96	40-140			
Aroclor 1260	0.492	0.0500	mg/kg wet	0.5000		98	40-140			
Surrogate: Decachlorobiphenyl	0.0298		mg/kg wet	0.02500		119	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0276		mg/kg wet	0.02500		111	30-150			
Surrogate: Tetrachloro-m-xylene	0.0262		mg/kg wet	0.02500		105	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0261		mg/kg wet	0.02500		105	30-150			

LCS Dup

Aroclor 1016	0.488	0.0500	mg/kg wet	0.5000		98	40-140	1	50	
Aroclor 1260	0.495	0.0500	mg/kg wet	0.5000		99	40-140	0.5	50	
Surrogate: Decachlorobiphenyl	0.0292		mg/kg wet	0.02500		117	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0272		mg/kg wet	0.02500		109	30-150			
Surrogate: Tetrachloro-m-xylene	0.0263		mg/kg wet	0.02500		105	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0264		mg/kg wet	0.02500		106	30-150			

Matrix Spike Source: 1106263-20

Aroclor 1016	1.90	0.185	mg/kg dry	1.854	ND	102	40-140			
Aroclor 1260	1.86	0.185	mg/kg dry	1.854	ND	101	40-140			
Surrogate: Decachlorobiphenyl	0.112		mg/kg dry	0.09270		121	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.108		mg/kg dry	0.09270		116	30-150			
Surrogate: Tetrachloro-m-xylene	0.109		mg/kg dry	0.09270		118	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.109		mg/kg dry	0.09270		117	30-150			

Matrix Spike Dup Source: 1106263-20

Aroclor 1016	1.91	0.196	mg/kg dry	1.955	ND	98	40-140	0.6	50	
Aroclor 1260	1.94	0.196	mg/kg dry	1.955	ND	99	40-140	4	50	
Surrogate: Decachlorobiphenyl	0.117		mg/kg dry	0.09775		119	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.109		mg/kg dry	0.09775		112	30-150			
Surrogate: Tetrachloro-m-xylene	0.111		mg/kg dry	0.09775		113	30-150			



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106263

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8082 Polychlorinated Biphenyls (PCB)										
Batch CF12326 - 3540										
Surrogate: Tetrachloro-m-xylene [2C]	0.110		mg/kg dry	0.09775		113	30-150			
Batch CF12424 - 3540										
Blank										
Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1221	ND	0.0500	mg/kg wet							
Aroclor 1232	ND	0.0500	mg/kg wet							
Aroclor 1242	ND	0.0500	mg/kg wet							
Aroclor 1248	ND	0.0500	mg/kg wet							
Aroclor 1254	ND	0.0500	mg/kg wet							
Aroclor 1260	ND	0.0500	mg/kg wet							
Aroclor 1262	ND	0.0500	mg/kg wet							
Aroclor 1268	ND	0.0500	mg/kg wet							
Surrogate: Decachlorobiphenyl	0.0241		mg/kg wet	0.02500		97	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0230		mg/kg wet	0.02500		92	30-150			
Surrogate: Tetrachloro-m-xylene	0.0221		mg/kg wet	0.02500		89	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0233		mg/kg wet	0.02500		93	30-150			
LCS										
Aroclor 1016	0.462	0.0500	mg/kg wet	0.5000		92	40-140			
Aroclor 1260	0.461	0.0500	mg/kg wet	0.5000		92	40-140			
Surrogate: Decachlorobiphenyl	0.0247		mg/kg wet	0.02500		99	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0236		mg/kg wet	0.02500		95	30-150			
Surrogate: Tetrachloro-m-xylene	0.0228		mg/kg wet	0.02500		91	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0226		mg/kg wet	0.02500		91	30-150			
LCS Dup										
Aroclor 1016	0.470	0.0500	mg/kg wet	0.5000		94	40-140	2	50	
Aroclor 1260	0.474	0.0500	mg/kg wet	0.5000		95	40-140	3	50	
Surrogate: Decachlorobiphenyl	0.0251		mg/kg wet	0.02500		100	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0239		mg/kg wet	0.02500		96	30-150			
Surrogate: Tetrachloro-m-xylene	0.0222		mg/kg wet	0.02500		89	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0220		mg/kg wet	0.02500		88	30-150			
Matrix Spike Source: 1106263-28										
Aroclor 1016	2.04	0.220	mg/kg dry	2.203	ND	92	40-140			
Aroclor 1260	2.74	0.220	mg/kg dry	2.203	ND	124	40-140			
Surrogate: Decachlorobiphenyl	0.102		mg/kg dry	0.1102		93	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0995		mg/kg dry	0.1102		90	30-150			
Surrogate: Tetrachloro-m-xylene	0.0799		mg/kg dry	0.1102		73	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0718		mg/kg dry	0.1102		65	30-150			
Matrix Spike Dup Source: 1106263-28										
Aroclor 1016	2.28	0.225	mg/kg dry	2.247	ND	102	40-140	11	50	
Aroclor 1260	2.58	0.225	mg/kg dry	2.247	ND	115	40-140	6	50	



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106263

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
---------	--------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-----------

8082 Polychlorinated Biphenyls (PCB)

Batch CF12424 - 3540

Surrogate: Decachlorobiphenyl	0.126		mg/kg dry	0.1124		113	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.108		mg/kg dry	0.1124		96	30-150			
Surrogate: Tetrachloro-m-xylene	0.0796		mg/kg dry	0.1124		71	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0728		mg/kg dry	0.1124		65	30-150			



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Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106263

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
S-	Surrogate recovery(ies) below lower control limit (S-).
P	Percent difference between primary and confirmation results exceeds 40% (P).
EL	Elevated Method Reporting Limits due to sample matrix (EL).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106263

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/labs/waterlabs-instate.php>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/out_state.pdf

Maine Potable and Non Potable Water: RI0002

http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/labcert/labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://www4.egov.nh.gov/des/nhelap/namesearch.asp>

New York (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301

http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

South Carolina Volatile Organic Compounds in Potable Water: 78003

New Jersey Potable (VOA) and Non Potable Water (RCRA), Solids and Hazardous Waste: RI002

<http://www.nj.gov/dep/oqa/certlabs.htm>

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

Sample and Cooler Receipt Checklist

Attachment B
SOP 10_0001

Client: Woodard & Curran

Client Project ID: _____

Shipped/Delivered Via: Client

ESS Project ID: 11060263

Date Project Due: 6/28/11

Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present? ☐ * No
- Air No.: _____
2. Were Custody Seals Present? ☐ No
3. Were Custody Seals Intact? ☐ N/A
4. Is Radiation count < 100 CPM? ☐ Yes
5. Is a cooler present? ☐ Yes
- Cooler Temp: 4.6
- Iced With: Ice
6. Was COC included with samples? ☐ Yes
7. Was COC signed and dated by client? ☐ Yes
8. Does the COC match the sample ☐ Yes
9. Is COC complete and correct? ☐ Yes
10. Are the samples properly preserved? ☐ Yes
11. Proper sample containers used? ☐ Yes
12. Any air bubbles in the VOA vials? ☐ N/A
13. Holding times exceeded? ☐ No
14. Sufficient sample volumes? ☐ Yes
15. Any Subcontracting needed? ☐ No
16. Are ESS labels on correct containers? ☒ Yes ☐ No
17. Were samples received intact? ☒ Yes ☐ No
- ESS Sample IDs: _____
- Sub Lab: _____
- Analysis: _____
- TAT: _____
18. Was there need to call project manager to discuss status? If yes, please explain.

Who was called?: _____

By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	1	NP
8	Yes	4 oz Soil Jar	1	NP
9	Yes	4 oz Soil Jar	1	NP
10	Yes	4 oz Soil Jar	1	NP
11	Yes	4 oz Soil Jar	1	NP
12	Yes	4 oz Soil Jar	1	NP
13	Yes	4 oz Soil Jar	1	NP
14	Yes	4 oz Soil Jar	1	NP
15	Yes	4 oz Soil Jar	1	NP
16	Yes	4 oz Soil Jar	1	NP
17	Yes	4 oz Soil Jar	1	NP
18	Yes	4 oz Soil Jar	1	NP
19	Yes	4 oz Soil Jar	1	NP
20	Yes	4 oz Soil Jar	1	NP
21	Yes	4 oz Soil Jar	3	NP
22	Yes	4 oz Soil Jar	1	NP
23	Yes	4 oz Soil Jar	1	NP
24	Yes	4 oz Soil Jar	1	NP
25	Yes	4 oz Soil Jar	1	NP

Sample and Cooler Receipt Checklist

Attachment B
SOP 10_0001

Client: Woodard & Curran

ESS Project ID: 11060263

26	Yes
27	Yes
28	Yes
29	Yes
30	Yes
31	Yes
32	Yes
33	Yes
34	Yes

4 oz Soil Jar	1
4 oz Soil Jar	1
4 oz Soil Jar	3
4 oz Soil Jar	1
4 oz Soil Jar	1
4 oz Soil Jar	1
4 oz Soil Jar	1
4 oz Soil Jar	1
4 oz Soil Jar	1
4 oz Soil Jar	1

NP
NP
NP
NP
NP
NP
NP
NP
NP
NP

Completed By: mk

Date/Time: 6/21/11

Reviewed By: 88

Date/Time: 6/21/11

ESS Laboratory

Division of Thicksch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
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www.esslaboratory.com

CHAIN OF CUSTODY

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Turn Time If faster than 5 days, prior approval by laboratory is required #	Other
State where samples were collected from: MA (R) CT NH NJ NY ME Other	ESS LAB PROJECT ID 1106263
Is this project for any of the following: MA-MCP Navy USACE Other	Electronic Deliverable Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Format: Excel <input checked="" type="checkbox"/> Access <input type="checkbox"/> PDF <input type="checkbox"/> Other <input type="checkbox"/>

Co. Name Woodward & Lozano		Project # 219303		Project Name (20 Char. or less) Safety-Kleen					
Contact Person Janelle Boon		Address 95 Cedar St.		City Providence					
State RI		Zip 02903		PO#					
Telephone # 401 275 1057		Fax # 401 275 5087		Email Address					
ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Type of Containers	Number of Containers
01	6/21/11	1045	X	S		VB-29	1	1	1
02	6/21/11	1048	X	S		VB-30	1	1	1
03	6/21/11	1051	X	S		VB-31	1	1	1
04	6/21/11	1055	X	S		VB-32	1	1	1
05	6/21/11	1059	X	S		VB-33	1	1	1
06	6/21/11	1102	X	S		SW-33	1	1	1
07	6/21/11	1104	X	S		SS SW-34	1	1	1
08	6/21/11	1108	X	S		SW-35	1	1	1
09	6/21/11	1112	X	S		SW-36	1	1	1
10	6/21/11	1116	X	S		SW-37	1	1	1

Container Type: P-Poly G-Glass S-Sterile V-VOA		Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters	
Cooler Present <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Internal Use Only	
Seals Intact <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	[] Pickup	
Cooler Temp: 4.6 °C	[] Technicians		
Sampled by: SEAN DRISCOLL		Comments: PCBs 8052 with EXTRACTION 3540	
Relinquished by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 B

ESS LAB PROJECT ID
1106263

1 (White) Lab Copy 2 (Yellow) Client Receipt

Page 1 of 1
ESS LAB PROJECT ID



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CERTIFICATE OF ANALYSIS

Janelle Bonn
Woodard & Curran - RI
95 Cedar Street, Suite 100
Providence, RI 02903

RE: SK Cranston (219303)
ESS Laboratory Work Order Number: 1107095

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director



Digitally signed by Laurel Stoddard
Date: 2011.07.19 13:03:35 -04'00'

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107095

SAMPLE RECEIPT

The following samples were received on July 12, 2011 for the analyses specified on the enclosed Chain of Custody Record.

<u>Lab Number</u>	<u>SampleName</u>	<u>Matrix</u>	<u>Analysis</u>
1107095-01	SW-46A	Soil	8082
1107095-02	SW-45A	Soil	8082
1107095-03	SW-44A	Soil	8082
1107095-04	SW-51	Soil	8082
1107095-05	SW-52	Soil	8082
1107095-06	SW-53	Soil	8082
1107095-07	SW-54	Soil	8082
1107095-08	SW-55	Soil	8082
1107095-09	VB-42	Soil	8082
1107095-10	VB-43	Soil	8082
1107095-11	VB-44	Soil	8082
1107095-12	VB-45	Soil	8082
1107095-13	VB-46	Soil	8082
1107095-14	DUP-VB-46	Soil	8082



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107095

PROJECT NARRATIVE

8082 Polychlorinated Biphenyls (PCB)

1107095-11

Percent difference between primary and confirmation results exceeds 40% (P).

Aroclor 1260

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-46A

Date Sampled: 07/12/11 10:30

Percent Solids: 96

Initial Volume: 5.4

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107095

ESS Laboratory Sample ID: 1107095-01

Sample Matrix: Soil

Units: mg/kg dry

Analyst: ML

Prepared: 7/12/11 19:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.193)	10	1	07/13/11 16:06		CG11219
Aroclor 1221	ND (0.193)	10	1	07/13/11 16:06		CG11219
Aroclor 1232	ND (0.193)	10	1	07/13/11 16:06		CG11219
Aroclor 1242	ND (0.193)	10	1	07/13/11 16:06		CG11219
Aroclor 1248	ND (0.193)	10	1	07/13/11 16:06		CG11219
Aroclor 1254	ND (0.193)	10	1	07/13/11 16:06		CG11219
Aroclor 1260	ND (0.193)	10	1	07/13/11 16:06		CG11219
Aroclor 1262	ND (0.193)	10	1	07/13/11 16:06		CG11219
Aroclor 1268	ND (0.193)	10	1	07/13/11 16:06		CG11219

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	93 %		30-150
Surrogate: Decachlorobiphenyl [2C]	91 %		30-150
Surrogate: Tetrachloro-m-xylene	85 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	88 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-45A

Date Sampled: 07/12/11 10:35

Percent Solids: 84

Initial Volume: 5.2

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107095

ESS Laboratory Sample ID: 1107095-02

Sample Matrix: Soil

Units: mg/kg dry

Analyst: ML

Prepared: 7/12/11 19:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.229)	10	1	07/13/11 16:25		CG11219
Aroclor 1221	ND (0.229)	10	1	07/13/11 16:25		CG11219
Aroclor 1232	ND (0.229)	10	1	07/13/11 16:25		CG11219
Aroclor 1242	ND (0.229)	10	1	07/13/11 16:25		CG11219
Aroclor 1248	ND (0.229)	10	1	07/13/11 16:25		CG11219
Aroclor 1254	ND (0.229)	10	1	07/13/11 16:25		CG11219
Aroclor 1260	ND (0.229)	10	1	07/13/11 16:25		CG11219
Aroclor 1262	ND (0.229)	10	1	07/13/11 16:25		CG11219
Aroclor 1268	ND (0.229)	10	1	07/13/11 16:25		CG11219

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	95 %		30-150
Surrogate: Decachlorobiphenyl [2C]	93 %		30-150
Surrogate: Tetrachloro-m-xylene	92 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	95 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-44A
Date Sampled: 07/12/11 10:40
Percent Solids: 98
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1107095
ESS Laboratory Sample ID: 1107095-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 7/12/11 19:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.200)	10	1	07/13/11 16:43		CG11219
Aroclor 1221	ND (0.200)	10	1	07/13/11 16:43		CG11219
Aroclor 1232	ND (0.200)	10	1	07/13/11 16:43		CG11219
Aroclor 1242	ND (0.200)	10	1	07/13/11 16:43		CG11219
Aroclor 1248	1.00 (0.200)	10	1	07/13/11 16:43		CG11219
Aroclor 1254	ND (0.200)	10	1	07/13/11 16:43		CG11219
Aroclor 1260	ND (0.200)	10	1	07/13/11 16:43		CG11219
Aroclor 1262	ND (0.200)	10	1	07/13/11 16:43		CG11219
Aroclor 1268	ND (0.200)	10	1	07/13/11 16:43		CG11219

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	88 %		30-150
Surrogate: Decachlorobiphenyl [2C]	87 %		30-150
Surrogate: Tetrachloro-m-xylene	98 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	100 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-51

Date Sampled: 07/12/11 15:50

Percent Solids: 87

Initial Volume: 5

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107095

ESS Laboratory Sample ID: 1107095-04

Sample Matrix: Soil

Units: mg/kg dry

Analyst: ML

Prepared: 7/12/11 19:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.230)	10	1	07/13/11 17:02		CG11219
Aroclor 1221	ND (0.230)	10	1	07/13/11 17:02		CG11219
Aroclor 1232	ND (0.230)	10	1	07/13/11 17:02		CG11219
Aroclor 1242	ND (0.230)	10	1	07/13/11 17:02		CG11219
Aroclor 1248	1.97 (0.230)	10	1	07/13/11 17:02		CG11219
Aroclor 1254	ND (0.230)	10	1	07/13/11 17:02		CG11219
Aroclor 1260	0.434 (0.230)	10	1	07/13/11 17:02		CG11219
Aroclor 1262	ND (0.230)	10	1	07/13/11 17:02		CG11219
Aroclor 1268	ND (0.230)	10	1	07/13/11 17:02		CG11219

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	89 %		30-150
Surrogate: Decachlorobiphenyl [2C]	90 %		30-150
Surrogate: Tetrachloro-m-xylene	91 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	96 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-52
Date Sampled: 07/12/11 15:55
Percent Solids: 96
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1107095
ESS Laboratory Sample ID: 1107095-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 7/12/11 19:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.204)	10	1	07/13/11 17:21		CG11219
Aroclor 1221	ND (0.204)	10	1	07/13/11 17:21		CG11219
Aroclor 1232	ND (0.204)	10	1	07/13/11 17:21		CG11219
Aroclor 1242	ND (0.204)	10	1	07/13/11 17:21		CG11219
Aroclor 1248	ND (0.204)	10	1	07/13/11 17:21		CG11219
Aroclor 1254	6.45 (1.02)	10	5	07/14/11 21:32		CG11219
Aroclor 1260	1.07 (0.204)	10	1	07/13/11 17:21		CG11219
Aroclor 1262	ND (0.204)	10	1	07/13/11 17:21		CG11219
Aroclor 1268	ND (0.204)	10	1	07/13/11 17:21		CG11219

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	92 %		30-150
Surrogate: Decachlorobiphenyl [2C]	91 %		30-150
Surrogate: Tetrachloro-m-xylene	99 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	98 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-53

Date Sampled: 07/12/11 16:00

Percent Solids: 90

Initial Volume: 5.5

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107095

ESS Laboratory Sample ID: 1107095-06

Sample Matrix: Soil

Units: mg/kg dry

Analyst: ML

Prepared: 7/12/11 19:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.202)	10	1	07/13/11 17:40		CG11219
Aroclor 1221	ND (0.202)	10	1	07/13/11 17:40		CG11219
Aroclor 1232	ND (0.202)	10	1	07/13/11 17:40		CG11219
Aroclor 1242	ND (0.202)	10	1	07/13/11 17:40		CG11219
Aroclor 1248	ND (0.202)	10	1	07/13/11 17:40		CG11219
Aroclor 1254	7.30 (1.01)	10	5	07/14/11 21:51		CG11219
Aroclor 1260	6.22 (1.01)	10	5	07/14/11 21:51		CG11219
Aroclor 1262	ND (0.202)	10	1	07/13/11 17:40		CG11219
Aroclor 1268	ND (0.202)	10	1	07/13/11 17:40		CG11219

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	96 %		30-150
Surrogate: Decachlorobiphenyl [2C]	85 %		30-150
Surrogate: Tetrachloro-m-xylene	95 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	94 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-54
Date Sampled: 07/12/11 16:05
Percent Solids: 77
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1107095
ESS Laboratory Sample ID: 1107095-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 7/12/11 19:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.255)	10	1	07/13/11 17:59		CG11219
Aroclor 1221	ND (0.255)	10	1	07/13/11 17:59		CG11219
Aroclor 1232	ND (0.255)	10	1	07/13/11 17:59		CG11219
Aroclor 1242	ND (0.255)	10	1	07/13/11 17:59		CG11219
Aroclor 1248	ND (0.255)	10	1	07/13/11 17:59		CG11219
Aroclor 1254	1.46 (0.255)	10	1	07/13/11 17:59		CG11219
Aroclor 1260	0.681 (0.255)	10	1	07/13/11 17:59		CG11219
Aroclor 1262	ND (0.255)	10	1	07/13/11 17:59		CG11219
Aroclor 1268	ND (0.255)	10	1	07/13/11 17:59		CG11219

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	88 %		30-150
Surrogate: Decachlorobiphenyl [2C]	86 %		30-150
Surrogate: Tetrachloro-m-xylene	90 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	91 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-55

Date Sampled: 07/12/11 16:10

Percent Solids: 86

Initial Volume: 5

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107095

ESS Laboratory Sample ID: 1107095-08

Sample Matrix: Soil

Units: mg/kg dry

Analyst: ML

Prepared: 7/12/11 19:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.233)	10	1	07/13/11 18:18		CG11219
Aroclor 1221	ND (0.233)	10	1	07/13/11 18:18		CG11219
Aroclor 1232	ND (0.233)	10	1	07/13/11 18:18		CG11219
Aroclor 1242	ND (0.233)	10	1	07/13/11 18:18		CG11219
Aroclor 1248	ND (0.233)	10	1	07/13/11 18:18		CG11219
Aroclor 1254	4.33 (0.233)	10	1	07/13/11 18:18		CG11219
Aroclor 1260	1.03 (0.233)	10	1	07/13/11 18:18		CG11219
Aroclor 1262	ND (0.233)	10	1	07/13/11 18:18		CG11219
Aroclor 1268	ND (0.233)	10	1	07/13/11 18:18		CG11219

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	85 %		30-150
Surrogate: Decachlorobiphenyl [ZC]	91 %		30-150
Surrogate: Tetrachloro-m-xylene	98 %		30-150
Surrogate: Tetrachloro-m-xylene [ZC]	88 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-42
Date Sampled: 07/12/11 16:15
Percent Solids: 80
Initial Volume: 5.3
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1107095
ESS Laboratory Sample ID: 1107095-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 7/12/11 19:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.236)	10	1	07/13/11 18:36		CG11219
Aroclor 1221	ND (0.236)	10	1	07/13/11 18:36		CG11219
Aroclor 1232	ND (0.236)	10	1	07/13/11 18:36		CG11219
Aroclor 1242	ND (0.236)	10	1	07/13/11 18:36		CG11219
Aroclor 1248	ND (0.236)	10	1	07/13/11 18:36		CG11219
Aroclor 1254	9.82 (1.18)	10	5	07/14/11 22:10		CG11219
Aroclor 1260	7.20 (1.18)	10	5	07/14/11 22:10		CG11219
Aroclor 1262	ND (0.236)	10	1	07/13/11 18:36		CG11219
Aroclor 1268	ND (0.236)	10	1	07/13/11 18:36		CG11219

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	93 %		30-150
Surrogate: Decachlorobiphenyl [2C]	87 %		30-150
Surrogate: Tetrachloro-m-xylene	71 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	93 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-43

Date Sampled: 07/12/11 16:20

Percent Solids: 84

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107095

ESS Laboratory Sample ID: 1107095-10

Sample Matrix: Soil

Units: mg/kg dry

Analyst: ML

Prepared: 7/12/11 19:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.233)	10	1	07/13/11 18:55		CG11219
Aroclor 1221	ND (0.233)	10	1	07/13/11 18:55		CG11219
Aroclor 1232	ND (0.233)	10	1	07/13/11 18:55		CG11219
Aroclor 1242	ND (0.233)	10	1	07/13/11 18:55		CG11219
Aroclor 1248	ND (0.233)	10	1	07/13/11 18:55		CG11219
Aroclor 1254	3.61 (0.233)	10	1	07/13/11 18:55		CG11219
Aroclor 1260	6.66 (1.17)	10	5	07/14/11 22:29		CG11219
Aroclor 1262	ND (0.233)	10	1	07/13/11 18:55		CG11219
Aroclor 1268	ND (0.233)	10	1	07/13/11 18:55		CG11219

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	88 %		30-150
Surrogate: Decachlorobiphenyl [2C]	81 %		30-150
Surrogate: Tetrachloro-m-xylene	93 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	90 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-44
Date Sampled: 07/12/11 16:25
Percent Solids: 81
Initial Volume: 5.2
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1107095
ESS Laboratory Sample ID: 1107095-11
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 7/12/11 19:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.237)	10	1	07/13/11 19:14		CG11219
Aroclor 1221	ND (0.237)	10	1	07/13/11 19:14		CG11219
Aroclor 1232	ND (0.237)	10	1	07/13/11 19:14		CG11219
Aroclor 1242	ND (0.237)	10	1	07/13/11 19:14		CG11219
Aroclor 1248	12.8 (1.19)	10	5	07/14/11 22:48		CG11219
Aroclor 1254	ND (0.237)	10	1	07/13/11 19:14		CG11219
Aroclor 1260	P 2.03 (0.237)	10	1	07/13/11 19:14		CG11219
Aroclor 1262	ND (0.237)	10	1	07/13/11 19:14		CG11219
Aroclor 1268	ND (0.237)	10	1	07/13/11 19:14		CG11219

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	91 %		30-150
Surrogate: Decachlorobiphenyl [2C]	81 %		30-150
Surrogate: Tetrachloro-m-xylene	73 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	92 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-45

Date Sampled: 07/12/11 16:30

Percent Solids: 74

Initial Volume: 5

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107095

ESS Laboratory Sample ID: 1107095-12

Sample Matrix: Soil

Units: mg/kg dry

Analyst: ML

Prepared: 7/12/11 19:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.270)	10	1	07/13/11 19:33		CG11219
Aroclor 1221	ND (0.270)	10	1	07/13/11 19:33		CG11219
Aroclor 1232	ND (0.270)	10	1	07/13/11 19:33		CG11219
Aroclor 1242	ND (0.270)	10	1	07/13/11 19:33		CG11219
Aroclor 1248	ND (0.270)	10	1	07/13/11 19:33		CG11219
Aroclor 1254	1.82 (0.270)	10	1	07/13/11 19:33		CG11219
Aroclor 1260	2.83 (0.270)	10	1	07/13/11 19:33		CG11219
Aroclor 1262	ND (0.270)	10	1	07/13/11 19:33		CG11219
Aroclor 1268	ND (0.270)	10	1	07/13/11 19:33		CG11219

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	94 %		30-150
Surrogate: Decachlorobiphenyl [ZC]	94 %		30-150
Surrogate: Tetrachloro-m-xylene	104 %		30-150
Surrogate: Tetrachloro-m-xylene [ZC]	96 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-46
Date Sampled: 07/12/11 16:35
Percent Solids: 71
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1107095
ESS Laboratory Sample ID: 1107095-13
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 7/12/11 19:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.276)	10	1	07/13/11 19:52		CG11219
Aroclor 1221	ND (0.276)	10	1	07/13/11 19:52		CG11219
Aroclor 1232	ND (0.276)	10	1	07/13/11 19:52		CG11219
Aroclor 1242	ND (0.276)	10	1	07/13/11 19:52		CG11219
Aroclor 1248	10.2 (1.38)	10	5	07/14/11 23:06		CG11219
Aroclor 1254	ND (0.276)	10	1	07/13/11 19:52		CG11219
Aroclor 1260	1.44 (0.276)	10	1	07/13/11 19:52		CG11219
Aroclor 1262	ND (0.276)	10	1	07/13/11 19:52		CG11219
Aroclor 1268	ND (0.276)	10	1	07/13/11 19:52		CG11219

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	86 %		30-150
Surrogate: Decachlorobiphenyl [2C]	90 %		30-150
Surrogate: Tetrachloro-m-xylene	60 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	84 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: DUP-VB-46

Date Sampled: 07/12/11 16:35

Percent Solids: 76

Initial Volume: 5

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107095

ESS Laboratory Sample ID: 1107095-14

Sample Matrix: Soil

Units: mg/kg dry

Analyst: ML

Prepared: 7/12/11 19:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.263)	10	1	07/13/11 20:48		CG11219
Aroclor 1221	ND (0.263)	10	1	07/13/11 20:48		CG11219
Aroclor 1232	ND (0.263)	10	1	07/13/11 20:48		CG11219
Aroclor 1242	ND (0.263)	10	1	07/13/11 20:48		CG11219
Aroclor 1248	11.6 (1.32)	10	5	07/14/11 23:25		CG11219
Aroclor 1254	ND (0.263)	10	1	07/13/11 20:48		CG11219
Aroclor 1260	1.67 (0.263)	10	1	07/13/11 20:48		CG11219
Aroclor 1262	ND (0.263)	10	1	07/13/11 20:48		CG11219
Aroclor 1268	ND (0.263)	10	1	07/13/11 20:48		CG11219

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	84 %		30-150
Surrogate: Decachlorobiphenyl [2C]	89 %		30-150
Surrogate: Tetrachloro-m-xylene	61 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	83 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107095

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082 Polychlorinated Biphenyls (PCB)

Batch CG11219 - 3540

Blank

Aroclor 1016	ND	0.0500	mg/kg wet
Aroclor 1221	ND	0.0500	mg/kg wet
Aroclor 1232	ND	0.0500	mg/kg wet
Aroclor 1242	ND	0.0500	mg/kg wet
Aroclor 1248	ND	0.0500	mg/kg wet
Aroclor 1254	ND	0.0500	mg/kg wet
Aroclor 1260	ND	0.0500	mg/kg wet
Aroclor 1262	ND	0.0500	mg/kg wet
Aroclor 1268	ND	0.0500	mg/kg wet

Surrogate: Decachlorobiphenyl	0.0235		mg/kg wet	0.02500		94	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0219		mg/kg wet	0.02500		88	30-150
Surrogate: Tetrachloro-m-xylene	0.0226		mg/kg wet	0.02500		90	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0234		mg/kg wet	0.02500		94	30-150

LCS

Aroclor 1016	0.471	0.0500	mg/kg wet	0.5000		94	40-140
Aroclor 1260	0.481	0.0500	mg/kg wet	0.5000		96	40-140
Surrogate: Decachlorobiphenyl	0.0246		mg/kg wet	0.02500		98	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0232		mg/kg wet	0.02500		93	30-150
Surrogate: Tetrachloro-m-xylene	0.0241		mg/kg wet	0.02500		97	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0237		mg/kg wet	0.02500		95	30-150

LCS Dup

Aroclor 1016	0.461	0.0500	mg/kg wet	0.5000		92	40-140	2	50
Aroclor 1260	0.483	0.0500	mg/kg wet	0.5000		97	40-140	0.5	50
Surrogate: Decachlorobiphenyl	0.0240		mg/kg wet	0.02500		96	30-150		
Surrogate: Decachlorobiphenyl [2C]	0.0226		mg/kg wet	0.02500		90	30-150		
Surrogate: Tetrachloro-m-xylene	0.0230		mg/kg wet	0.02500		92	30-150		
Surrogate: Tetrachloro-m-xylene [2C]	0.0224		mg/kg wet	0.02500		90	30-150		

Matrix Spike Source: 1107095-13

Aroclor 1016	3.69	0.276	mg/kg dry	2.762	ND	134	40-140
Aroclor 1260	3.27	0.276	mg/kg dry	2.762	1.44	66	40-140
Surrogate: Decachlorobiphenyl	0.136		mg/kg dry	0.1381		99	30-150
Surrogate: Decachlorobiphenyl [2C]	0.136		mg/kg dry	0.1381		98	30-150
Surrogate: Tetrachloro-m-xylene	0.0998		mg/kg dry	0.1381		72	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.120		mg/kg dry	0.1381		87	30-150

Matrix Spike Dup Source: 1107095-13

Aroclor 1016	3.70	0.282	mg/kg dry	2.817	ND	131	40-140	0.4	50
Aroclor 1260	3.41	0.282	mg/kg dry	2.817	1.44	70	40-140	4	50
Surrogate: Decachlorobiphenyl	0.152		mg/kg dry	0.1408		108	30-150		
Surrogate: Decachlorobiphenyl [2C]	0.150		mg/kg dry	0.1408		106	30-150		
Surrogate: Tetrachloro-m-xylene	0.0951		mg/kg dry	0.1408		68	30-150		



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107095

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082 Polychlorinated Biphenyls (PCB)

Batch CG11219 - 3540

Surrogate: Tetrachloro-m-xylene [2C]	0.117		mg/kg dry	0.1408		83	30-150			
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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107095

Notes and Definitions

U	Analyte included in the analysis, but not detected
P	Percent difference between primary and confirmation results exceeds 40% (P).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107095

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/labs/waterlabs-instate.php>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/out_state.pdf

Maine Potable and Non Potable Water: RI0002

http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/labcert/labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://www4.egov.nh.gov/des/nhelap/namesearch.asp>

New York (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301

http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

South Carolina Volatile Organic Compounds in Potable Water: 78003

New Jersey Potable (VOA) and Non Potable Water (RCRA), Solids and Hazardous Waste: RI002

<http://www.nj.gov/dep/oqa/certlabs.htm>

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

Sample and Cooler Receipt Checklist

Client: Woodard & Curran

Client Project ID: _____

Shipped/Delivered Via: ESS CourierESS Project ID: 11070095Date Project Due: 7/19/11Days For Project: 5 Day**Items to be checked upon receipt:**

1. Air Bill Manifest Present?

☐ * No

Air No.: _____

2. Were Custody Seals Present?

☐ No

3. Were Custody Seals Intact?

☐ N/A

4. Is Radiation count < 100 CPM?

☐ Yes

5. Is a cooler present?

☐ YesCooler Temp: 5.9Iced With: Icepacks

6. Was COC included with samples?

☐ Yes

7. Was COC signed and dated by client?

☐ Yes

8. Does the COC match the sample

☐ Yes

9. Is COC complete and correct?

☐ Yes

10. Are the samples properly preserved?

☐ Yes

11. Proper sample containers used?

☐ Yes

12. Any air bubbles in the VOA vials?

☐ N/A

13. Holding times exceeded?

☐ No

14. Sufficient sample volumes?

☐ Yes

15. Any Subcontracting needed?

☐ No

16. Are ESS labels on correct containers?

☒ Yes ☐ No

17. Were samples received intact?

☒ Yes ☐ No

ESS Sample IDs: _____

Sub Lab: _____

Analysis: _____

TAT: _____

18. Was there need to call project manager to discuss status? If yes, please explain.

Who was called?: _____

By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	1	NP
8	Yes	4 oz Soil Jar	1	NP
9	Yes	4 oz Soil Jar	1	NP
10	Yes	4 oz Soil Jar	1	NP
11	Yes	4 oz Soil Jar	1	NP
12	Yes	4 oz Soil Jar	1	NP
13	Yes	4 oz Soil Jar	3	NP
14	Yes	4 oz Soil Jar	1	NP

Completed By: MLReviewed By: MBDate/Time: 7/12/11Date/Time: 7/12/11

ESS Laboratory

Division of Thidisch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 1 of 2

Turn Time If faster than 5 days, prior approval by laboratory is required #		Reporting Limits		ESS LAB PROJECT ID	
State where samples were collected from: MA <input checked="" type="checkbox"/> CT <input type="checkbox"/> NH <input type="checkbox"/> NJ <input type="checkbox"/> NY <input type="checkbox"/> ME <input type="checkbox"/> Other		Electronic Deliverable Format: Excel <input checked="" type="checkbox"/> Access <input type="checkbox"/> PDF <input type="checkbox"/> Other		1107095	
Is this project for any of the following: MA-MCP <input type="checkbox"/> Navy <input type="checkbox"/> USACE <input type="checkbox"/> Other					
Project #		Project Name (20 Char. or less)		Circle and/or Write Required Analysis	
2P303		Safety Klein			
Address		Email Address			
95 Cedar St.					
City		State			
Providence		RI			
Zip		PO#			
02903					
Telephone #		Fax #			
401 273 1007		401 273 5087			
ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX
01	7/12/11	1030		X	S
02	7/12/11	1035		X	S
03	7/12/11	1040		X	S
04	7/12/11	1550		X	S
05	7/12/11	1555		X	S
06	7/12/11	1600		X	S
07	7/12/11	1605		X	S
08	7/12/11	1610		X	S
09	7/12/11	1615		X	S
10	7/12/11	1620		X	S
Sample Identification (20 Char. or less)			Pres Code	Type of Containers	
SW-46A			1	1 G	
SW-45A			1	1 G	
SW-44A			1	1 G	
SW-51			1	1 G	
SW-52			1	1 G	
SW-53			1	1 G	
SW-54			1	1 G	
SW-55			1	1 G	
VB-42			1	1 G	
VB-43			1	1 G	
Container Type: P-Poly G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters					
Cooler Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Internal Use Only		Preservation Code 1- NR 2- HCL1, 3- H2SO4, 4- HNO3, 5- NaOH, 6- MeOH, 7- Asorbic Acid, 8- ZnAct, 9-	
Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No NA: <input type="checkbox"/> Pickup					
Cooler Temp: 5.9		[] Technicians			
Relinquished by: (Signature)		Received by: (Signature)		Date/Time	
7/12/11 1710		7/12/11 1710		7/12/11 1710	
Relinquished by: (Signature)		Received by: (Signature)		Date/Time	
7/12/11 1710		7/12/11 1710		7/12/11 1710	
Comments: PCB's 8082 w/ 3540 EXTRACTION					
Sampled by: SEAN DISCOLL					

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt
10/26/04 B



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CERTIFICATE OF ANALYSIS

Janelle Bonn
Woodard & Curran - RI
95 Cedar Street, Suite 100
Providence, RI 02903

RE: SK Cranston (219303)

ESS Laboratory Work Order Number: 1107159

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director



Digitally signed by Laurel Stoddard
Date: 2011.07.22 16:31:31 -04'00'

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107159

SAMPLE RECEIPT

The following samples were received on July 15, 2011 for the analyses specified on the enclosed Chain of Custody Record.

<u>Lab Number</u>	<u>SampleName</u>	<u>Matrix</u>	<u>Analysis</u>
1107159-01	SW-56	Soil	8082
1107159-02	SW-57	Soil	8082
1107159-03	SW-58	Soil	8082
1107159-04	SW-39A	Soil	8082
1107159-05	SW-25A	Soil	8082
1107159-06	SW-41A	Soil	8082
1107159-07	SW-32A	Soil	8082
1107159-08	VB-47	Soil	8082
1107159-09	VB-48	Soil	8082
1107159-10	VB-49	Soil	8082
1107159-11	VB-50	Soil	8082



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107159

PROJECT NARRATIVE

8082 Polychlorinated Biphenyls (PCB)

1107159-05

Surrogate recovery(ies) diluted below the MRL (SD).

Decachlorobiphenyl (% @ 30-150%), Decachlorobiphenyl [2C] (% @ 30-150%), Tetrachloro-m-xylene (% @ 30-150%), Tetrachloro-m-xylene [2C] (% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

Definitions of Quality Control Parameters

Semivolatile Organics Internal Standard Information

Semivolatile Organics Surrogate Information

Volatile Organics Internal Standard Information

Volatile Organics Surrogate Information

EPH and VPH Alkane Lists



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-56
Date Sampled: 07/15/11 15:00
Percent Solids: 80
Initial Volume: 5.2
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1107159
ESS Laboratory Sample ID: 1107159-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 7/15/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.240)	10	1	07/18/11 16:10		CG11515
Aroclor 1221	ND (0.240)	10	1	07/18/11 16:10		CG11515
Aroclor 1232	ND (0.240)	10	1	07/18/11 16:10		CG11515
Aroclor 1242	ND (0.240)	10	1	07/18/11 16:10		CG11515
Aroclor 1248	9.57 (1.20)	10	5	07/19/11 11:11		CG11515
Aroclor 1254	10.6 (1.20)	10	5	07/19/11 11:11		CG11515
Aroclor 1260	ND (0.240)	10	1	07/18/11 16:10		CG11515
Aroclor 1262	ND (0.240)	10	1	07/18/11 16:10		CG11515
Aroclor 1268	ND (0.240)	10	1	07/18/11 16:10		CG11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	92 %		30-150
Surrogate: Decachlorobiphenyl [2C]	110 %		30-150
Surrogate: Tetrachloro-m-xylene	57 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	83 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-57

Date Sampled: 07/15/11 15:05

Percent Solids: 80

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107159

ESS Laboratory Sample ID: 1107159-02

Sample Matrix: Soil

Units: mg/kg dry

Analyst: ML

Prepared: 7/15/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.245)	10	1	07/18/11 16:29		CG11515
Aroclor 1221	ND (0.245)	10	1	07/18/11 16:29		CG11515
Aroclor 1232	ND (0.245)	10	1	07/18/11 16:29		CG11515
Aroclor 1242	ND (0.245)	10	1	07/18/11 16:29		CG11515
Aroclor 1248	17.3 (1.23)	10	5	07/19/11 11:49		CG11515
Aroclor 1254	16.6 (1.23)	10	5	07/19/11 11:49		CG11515
Aroclor 1260	ND (0.245)	10	1	07/18/11 16:29		CG11515
Aroclor 1262	ND (0.245)	10	1	07/18/11 16:29		CG11515
Aroclor 1268	ND (0.245)	10	1	07/18/11 16:29		CG11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	104 %		30-150
Surrogate: Decachlorobiphenyl [ZC]	117 %		30-150
Surrogate: Tetrachloro-m-xylene	60 %		30-150
Surrogate: Tetrachloro-m-xylene [ZC]	97 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-58
Date Sampled: 07/15/11 15:10
Percent Solids: 80
Initial Volume: 5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1107159
ESS Laboratory Sample ID: 1107159-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 7/15/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.250)	10	1	07/18/11 17:07		CG11515
Aroclor 1221	ND (0.250)	10	1	07/18/11 17:07		CG11515
Aroclor 1232	ND (0.250)	10	1	07/18/11 17:07		CG11515
Aroclor 1242	ND (0.250)	10	1	07/18/11 17:07		CG11515
Aroclor 1248	ND (0.250)	10	1	07/18/11 17:07		CG11515
Aroclor 1254	7.81 (0.500)	10	2	07/19/11 12:27		CG11515
Aroclor 1260	1.55 (0.250)	10	1	07/18/11 17:07		CG11515
Aroclor 1262	ND (0.250)	10	1	07/18/11 17:07		CG11515
Aroclor 1268	ND (0.250)	10	1	07/18/11 17:07		CG11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	80 %		30-150
Surrogate: Decachlorobiphenyl [2C]	78 %		30-150
Surrogate: Tetrachloro-m-xylene	86 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	83 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-39A
Date Sampled: 07/15/11 15:15
Percent Solids: 87
Initial Volume: 5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1107159
ESS Laboratory Sample ID: 1107159-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 7/15/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.230)	10	1	07/18/11 17:44		CG11515
Aroclor 1221	ND (0.230)	10	1	07/18/11 17:44		CG11515
Aroclor 1232	ND (0.230)	10	1	07/18/11 17:44		CG11515
Aroclor 1242	ND (0.230)	10	1	07/18/11 17:44		CG11515
Aroclor 1248	ND (0.230)	10	1	07/18/11 17:44		CG11515
Aroclor 1254	1.74 (0.230)	10	1	07/18/11 17:44		CG11515
Aroclor 1260	0.361 (0.230)	10	1	07/18/11 17:44		CG11515
Aroclor 1262	ND (0.230)	10	1	07/18/11 17:44		CG11515
Aroclor 1268	ND (0.230)	10	1	07/18/11 17:44		CG11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	79 %		30-150
Surrogate: Decachlorobiphenyl [2C]	95 %		30-150
Surrogate: Tetrachloro-m-xylene	76 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	83 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-25A
Date Sampled: 07/15/11 15:20
Percent Solids: 83
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1107159
ESS Laboratory Sample ID: 1107159-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 7/15/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (4.72)	10	20	07/22/11 10:03		CG11515
Aroclor 1221	ND (4.72)	10	20	07/22/11 10:03		CG11515
Aroclor 1232	ND (4.72)	10	20	07/22/11 10:03		CG11515
Aroclor 1242	ND (4.72)	10	20	07/22/11 10:03		CG11515
Aroclor 1248	56.1 (4.72)	10	20	07/22/11 10:03		CG11515
Aroclor 1254	56.8 (4.72)	10	20	07/22/11 10:03		CG11515
Aroclor 1260	ND (4.72)	10	20	07/22/11 10:03		CG11515
Aroclor 1262	ND (4.72)	10	20	07/22/11 10:03		CG11515
Aroclor 1268	ND (4.72)	10	20	07/22/11 10:03		CG11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	%	SD	30-150
Surrogate: Decachlorobiphenyl [2C]	%	SD	30-150
Surrogate: Tetrachloro-m-xylene	%	SD	30-150
Surrogate: Tetrachloro-m-xylene [2C]	%	SD	30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-41A

Date Sampled: 07/15/11 15:25

Percent Solids: 84

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107159

ESS Laboratory Sample ID: 1107159-06

Sample Matrix: Soil

Units: mg/kg dry

Analyst: ML

Prepared: 7/15/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.233)	10	1	07/18/11 18:59		CG11515
Aroclor 1221	ND (0.233)	10	1	07/18/11 18:59		CG11515
Aroclor 1232	ND (0.233)	10	1	07/18/11 18:59		CG11515
Aroclor 1242	ND (0.233)	10	1	07/18/11 18:59		CG11515
Aroclor 1248	23.6 (2.33)	10	10	07/19/11 14:58		CG11515
Aroclor 1254	25.0 (2.33)	10	10	07/19/11 14:58		CG11515
Aroclor 1260	ND (0.233)	10	1	07/18/11 18:59		CG11515
Aroclor 1262	ND (0.233)	10	1	07/18/11 18:59		CG11515
Aroclor 1268	ND (0.233)	10	1	07/18/11 18:59		CG11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	93 %		30-150
Surrogate: Decachlorobiphenyl [2C]	96 %		30-150
Surrogate: Tetrachloro-m-xylene	58 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	79 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-32A
Date Sampled: 07/15/11 15:30
Percent Solids: 98
Initial Volume: 5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1107159
ESS Laboratory Sample ID: 1107159-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 7/15/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.204)	10	1	07/19/11 0:38		CG11515
Aroclor 1221	ND (0.204)	10	1	07/19/11 0:38		CG11515
Aroclor 1232	ND (0.204)	10	1	07/19/11 0:38		CG11515
Aroclor 1242	ND (0.204)	10	1	07/19/11 0:38		CG11515
Aroclor 1248	1.03 (0.204)	10	1	07/19/11 0:38		CG11515
Aroclor 1254	ND (0.204)	10	1	07/19/11 0:38		CG11515
Aroclor 1260	ND (0.204)	10	1	07/19/11 0:38		CG11515
Aroclor 1262	ND (0.204)	10	1	07/19/11 0:38		CG11515
Aroclor 1268	ND (0.204)	10	1	07/19/11 0:38		CG11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	96 %		30-150
Surrogate: Decachlorobiphenyl [2C]	95 %		30-150
Surrogate: Tetrachloro-m-xylene	85 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	89 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-47

Date Sampled: 07/15/11 15:35

Percent Solids: 91

Initial Volume: 5.2

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107159

ESS Laboratory Sample ID: 1107159-08

Sample Matrix: Soil

Units: mg/kg dry

Analyst: ML

Prepared: 7/15/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.211)	10	1	07/19/11 1:16		CG11515
Aroclor 1221	ND (0.211)	10	1	07/19/11 1:16		CG11515
Aroclor 1232	ND (0.211)	10	1	07/19/11 1:16		CG11515
Aroclor 1242	ND (0.211)	10	1	07/19/11 1:16		CG11515
Aroclor 1248	1.35 (0.211)	10	1	07/19/11 1:16		CG11515
Aroclor 1254	1.72 (0.211)	10	1	07/19/11 1:16		CG11515
Aroclor 1260	ND (0.211)	10	1	07/19/11 1:16		CG11515
Aroclor 1262	ND (0.211)	10	1	07/19/11 1:16		CG11515
Aroclor 1268	ND (0.211)	10	1	07/19/11 1:16		CG11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	75 %		30-150
Surrogate: Decachlorobiphenyl [2C]	81 %		30-150
Surrogate: Tetrachloro-m-xylene	56 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	75 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-48

Date Sampled: 07/15/11 15:40

Percent Solids: 82

Initial Volume: 5

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107159

ESS Laboratory Sample ID: 1107159-09

Sample Matrix: Soil

Units: mg/kg dry

Analyst: ML

Prepared: 7/15/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.244)	10	1	07/19/11 1:54		CG11515
Aroclor 1221	ND (0.244)	10	1	07/19/11 1:54		CG11515
Aroclor 1232	ND (0.244)	10	1	07/19/11 1:54		CG11515
Aroclor 1242	ND (0.244)	10	1	07/19/11 1:54		CG11515
Aroclor 1248	ND (0.244)	10	1	07/19/11 1:54		CG11515
Aroclor 1254	1.84 (0.244)	10	1	07/19/11 1:54		CG11515
Aroclor 1260	ND (0.244)	10	1	07/19/11 1:54		CG11515
Aroclor 1262	ND (0.244)	10	1	07/19/11 1:54		CG11515
Aroclor 1268	ND (0.244)	10	1	07/19/11 1:54		CG11515

%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	74 %	30-150
Surrogate: Decachlorobiphenyl [2C]	79 %	30-150
Surrogate: Tetrachloro-m-xylene	59 %	30-150
Surrogate: Tetrachloro-m-xylene [2C]	73 %	30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-49

Date Sampled: 07/15/11 15:45

Percent Solids: 82

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107159

ESS Laboratory Sample ID: 1107159-10

Sample Matrix: Soil

Units: mg/kg dry

Analyst: ML

Prepared: 7/15/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.239)	10	1	07/19/11 2:32		CG11515
Aroclor 1221	ND (0.239)	10	1	07/19/11 2:32		CG11515
Aroclor 1232	ND (0.239)	10	1	07/19/11 2:32		CG11515
Aroclor 1242	ND (0.239)	10	1	07/19/11 2:32		CG11515
Aroclor 1248	ND (0.239)	10	1	07/19/11 2:32		CG11515
Aroclor 1254	2.85 (0.239)	10	1	07/19/11 2:32		CG11515
Aroclor 1260	ND (0.239)	10	1	07/19/11 2:32		CG11515
Aroclor 1262	ND (0.239)	10	1	07/19/11 2:32		CG11515
Aroclor 1268	ND (0.239)	10	1	07/19/11 2:32		CG11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	85 %		30-150
Surrogate: Decachlorobiphenyl [2C]	92 %		30-150
Surrogate: Tetrachloro-m-xylene	84 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	79 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-50

Date Sampled: 07/15/11 15:50

Percent Solids: 88

Initial Volume: 5.2

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107159

ESS Laboratory Sample ID: 1107159-11

Sample Matrix: Soil

Units: mg/kg dry

Analyst: ML

Prepared: 7/15/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.219)	10	1	07/19/11 3:10		CG11515
Aroclor 1221	ND (0.219)	10	1	07/19/11 3:10		CG11515
Aroclor 1232	ND (0.219)	10	1	07/19/11 3:10		CG11515
Aroclor 1242	ND (0.219)	10	1	07/19/11 3:10		CG11515
Aroclor 1248	ND (0.219)	10	1	07/19/11 3:10		CG11515
Aroclor 1254	0.417 (0.219)	10	1	07/19/11 3:10		CG11515
Aroclor 1260	ND (0.219)	10	1	07/19/11 3:10		CG11515
Aroclor 1262	ND (0.219)	10	1	07/19/11 3:10		CG11515
Aroclor 1268	ND (0.219)	10	1	07/19/11 3:10		CG11515

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	90 %		30-150
Surrogate: Decachlorobiphenyl [2C]	88 %		30-150
Surrogate: Tetrachloro-m-xylene	104 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	89 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107159

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082 Polychlorinated Biphenyls (PCB)

Batch CG11515 - 3540

Blank

Aroclor 1016	ND	0.0500	mg/kg wet
Aroclor 1221	ND	0.0500	mg/kg wet
Aroclor 1232	ND	0.0500	mg/kg wet
Aroclor 1242	ND	0.0500	mg/kg wet
Aroclor 1248	ND	0.0500	mg/kg wet
Aroclor 1254	ND	0.0500	mg/kg wet
Aroclor 1260	ND	0.0500	mg/kg wet
Aroclor 1262	ND	0.0500	mg/kg wet
Aroclor 1268	ND	0.0500	mg/kg wet

Surrogate: Decachlorobiphenyl	0.0204		mg/kg wet	0.02500	81	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0198		mg/kg wet	0.02500	79	30-150
Surrogate: Tetrachloro-m-xylene	0.0211		mg/kg wet	0.02500	84	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0217		mg/kg wet	0.02500	87	30-150

LCS

Aroclor 1016	0.438	0.0500	mg/kg wet	0.5000	88	40-140
Aroclor 1260	0.418	0.0500	mg/kg wet	0.5000	84	40-140

Surrogate: Decachlorobiphenyl	0.0209		mg/kg wet	0.02500	84	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0206		mg/kg wet	0.02500	82	30-150
Surrogate: Tetrachloro-m-xylene	0.0221		mg/kg wet	0.02500	89	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0215		mg/kg wet	0.02500	86	30-150

LCS Dup

Aroclor 1016	0.428	0.0500	mg/kg wet	0.5000	86	40-140	2	50
Aroclor 1260	0.416	0.0500	mg/kg wet	0.5000	83	40-140	0.6	50

Surrogate: Decachlorobiphenyl	0.0206		mg/kg wet	0.02500	83	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0202		mg/kg wet	0.02500	81	30-150
Surrogate: Tetrachloro-m-xylene	0.0217		mg/kg wet	0.02500	87	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0211		mg/kg wet	0.02500	84	30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107159

Notes and Definitions

U	Analyte included in the analysis, but not detected
SD	Surrogate recovery(ies) diluted below the MRL (SD).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107159

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/labs/waterlabs-instate.php>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/out_state.pdf

Maine Potable and Non Potable Water: RI0002

http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/labcert/labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://www4.egov.nh.gov/des/nhelap/namesearch.asp>

New York (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301

http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

South Carolina Volatile Organic Compounds in Potable Water: 78003

New Jersey Potable (VOA) and Non Potable Water (RCRA), Solids and Hazardous Waste: RI002

<http://www.nj.gov/dep/oqa/certlabs.htm>

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

Sample and Cooler Receipt Checklist

Client: Woodard & Curran

Client Project ID: _____

Shipped/Delivered Via: ClientESS Project ID: 11070159Date Project Due: 7/22/11

Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?

☒ No

Air No.:

2. Were Custody Seals Present?

☐ No

3. Were Custody Seals Intact?

☐ N/A

4. Is Radiation count < 100 CPM?

☐ Yes

5. Is a cooler present?

☐ YesCooler Temp: 5.3Iced With: Ice

6. Was COC included with samples?

☐ Yes

7. Was COC signed and dated by client?

☐ Yes

8. Does the COC match the sample

☐ Yes

9. Is COC complete and correct?

☐ Yes

10. Are the samples properly preserved?

☐ Yes

11. Proper sample containers used?

☐ Yes

12. Any air bubbles in the VOA vials?

☐ N/A

13. Holding times exceeded?

☐ No

14. Sufficient sample volumes?

☐ Yes

15. Any Subcontracting needed?

☐ No

16. Are ESS labels on correct containers?

☒ Yes ☐ No

17. Were samples received intact?

☒ Yes ☐ No

ESS Sample IDs: _____

Sub Lab: _____

Analysis: _____

TAT: _____

18. Was there need to call project manager to discuss status? If yes, please explain.

Who was called?: _____

By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP
7	Yes	4 oz Soil Jar	1	NP
8	Yes	4 oz Soil Jar	1	NP
9	Yes	4 oz Soil Jar	1	NP
10	Yes	4 oz Soil Jar	1	NP
11	Yes	4 oz Soil Jar	1	NP

Completed By: mkDate/Time: 7/15/11Reviewed By: KazDate/Time: 7/15/11

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 1 of 2

Turn Time If faster than 5 days, prior approval by laboratory is required # _____		Reporting Limits		ESS LAB PROJECT ID	
State where samples were collected from: MA (R) CT NH NJ NY ME Other _____		Electronic Deliverable Yes <input checked="" type="checkbox"/> No _____		1107159	
Is this project for any of the following: MA-MCP Navy USACE Other _____		Format: Excel <input checked="" type="checkbox"/> Access _____ PDF _____ Other _____			

Co. Name Woodward & Curran		Project # 219303		Project Name (20 Char. or less) Safety KLEEN	
Contact Person JANELLE BORN		Address 95 CEDAR ST.		City PROVIDENCE	
State RI		Zip 02903		PO#	
Telephone # 401 273 1007		Fax # 401 273 5087		Email Address	

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Type of Containers	Number of Containers	Type of Containers	Circle and/or Write Required Analysis
01	7/15/11	1500	X	S	S	SW-56	1	1 G	1	8260 VOA 8021 8015 VPH MTBE/BTEX GRO 8100 8015 TPH DRO EPH EPH EPH w/o PAH, w/PAH, 4 Dist 8081 608 608 PCB Pesticides PCB 8270 625 PAH SVOA RCRA5 RCRA8 PPI3 TAIL3 TCLP-RCRA8 NBC7 MCP-METALS (13) w/Hg MCP-METALS (13)	
02	7/15/11	1505	X	S	S	SW-57	1	1 G	1		
03	7/15/11	1510	X	S	S	SW-58	1	1 G	1		
04	7/15/11	1515	X	S	S	SW-39A	1	1 G	1		
05	7/15/11	1520	X	S	S	SW-25A	1	1 G	1		
06	7/15/11	1525	X	S	S	SW-41A	1	1 G	1		
07	7/15/11	1530	X	S	S	SW-32A	1	1 G	1		
08	7/15/11	1535	X	S	S	VB-47	1	1 G	1		
09	7/15/11	1540	X	S	S	VB-48	1	1 G	1		
10	7/15/11	1545	X	S	S	VB-49	1	1 G	1		

Container Type: P-Poly G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters	
Cooler Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Internal Use Only <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No NA <input checked="" type="checkbox"/> [] Pickup [] Technicians
Seals Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Preservation Code 1- NP, 2- HCl, 3- H ₂ SO ₄ , 4- HNO ₃ , 5- NaOH, 6- MeOH, 7- Ascorbic Acid, 8- ZnAct, 9- _____
Cooler Temp: 5.3 °C	Sampled by: SEAN DRISCOLL
Comments: PCBs 8082 w/ 3540 EXTRACTION	

Relinquished by: (Signature) <i>[Signature]</i>	Date/Time 7/15/11 1625	Relinquished by: (Signature)	Date/Time 7/15/11 1625
Relinquished by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A

Please fax all changes to Chain of Custody in writing.

1 (White) Lab Copy 2 (Yellow) Client Receipt

10/26/04 R

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 2 of 2

Turn Time ☒ Standard Other _____
If faster than 5 days, prior approval by laboratory is required # _____
State where samples were collected from:
MA (R) CT NH NJ NY ME Other _____
Is this project for any of the following:
MA-MCP Navy USACE Other _____
Electronic Deliverable Yes ☒ No _____
Format: Excel ☒ Access _____ PDF _____ Other _____

Co. Name Woodward & Lothrop		Project # 219303		Project Name (20 Char. or less) Safety Kitchen	
Contact Person Janelle Barr		Address 95 Cedar St.		City Providence	
Telephone # 273-1007		Fax # 273-5087		State RI	
ESS LAB Sample # 11		Collection Time 1550		Zip 02903	
Date 7/15/11		Sample Identification (20 Char. or less) VS VB-SO		PO#	
COMP		GRAB		MATRIX	
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
Type of Containers		Number of Containers		Type of Containers	
8260 VOA 624 524.2		8021 VPH 8015		8100 DRO 8015	
8081 PCB 608		8081 PCB 608		8270 RAH 625	
8081 PCB 608		8081 PCB 608		8270 RAH 625	
RCRA5 RCRA8 PPI3 TAL23		RCRA5 RCRA8 PPI3 TAL23		RCRA5 RCRA8 PPI3 TAL23	
MCP-METALS (13)		MCP-METALS (13)		MCP-METALS (13)	
TC-P-RCRA8		TC-P-RCRA8		TC-P-RCRA8	
MCP-METALS (13)		MCP-METALS (13)		MCP-METALS (13)	

Container Type: P-Poly G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present ☒ Yes ☐ No ☐ Internal Use Only ☐ Pickup ☐ Technicians ☐

Seals Intact ☒ Yes ☐ No ☐

Cooler Temp: **5.3**

Preservation Code 1- NR; 2- HCl; 3- H₂SO₄; 4- HNO₃; 5- NaOH; 6- MeOH; 7- Ascorbic Acid; 8- ZnAct; 9- _____

Sampled by: **Sean Desaulle**

Comments: **POB 8082 w/ 3540 EXTRACTION**

Relinquished by (Signature) [Signature]	Date/Time 7/15/11 1625	Relinquished by (Signature)	Date/Time
Relinquished by (Signature)	Date/Time	Relinquished by (Signature)	Date/Time



ESS Laboratory

Division of Thielsch Engineering, Inc.

BAL Laboratory

*The Microbiology Division
of Thielsch Engineering, Inc.*



CERTIFICATE OF ANALYSIS

Janelle Bonn
Woodard & Curran - RI
95 Cedar Street, Suite 100
Providence, RI 02903

RE: SK Cranston (219303)

ESS Laboratory Work Order Number: 1107259

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director



Digitally signed by Melissa Pagliarini
Date: 2011.08.02 16:17:40 -04'00'

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.



ESS Laboratory
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of Thielsch Engineering, Inc.*



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107259

SAMPLE RECEIPT

The following samples were received on July 26, 2011 for the analyses specified on the enclosed Chain of Custody Record.

<u>Lab Number</u>	<u>SampleName</u>	<u>Matrix</u>	<u>Analysis</u>
1107259-01	SW-59	Soil	8082
1107259-02	VB-51	Soil	8082
1107259-03	VB-42A	Soil	8082
1107259-04	VB-43A	Soil	8082
1107259-05	VB-44A	Soil	8082
1107259-06	VB-46A	Soil	8082



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107259

PROJECT NARRATIVE

8082 Polychlorinated Biphenyls (PCB)

1107259-03

Percent difference between primary and confirmation results exceeds 40% (P).

Aroclor 1260

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-59
Date Sampled: 07/26/11 15:10
Percent Solids: 86
Initial Volume: 5.2
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1107259
ESS Laboratory Sample ID: 1107259-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 7/28/11 19:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.224)	10	1	07/29/11 14:42		CG12825
Aroclor 1221	ND (0.224)	10	1	07/29/11 14:42		CG12825
Aroclor 1232	ND (0.224)	10	1	07/29/11 14:42		CG12825
Aroclor 1242	ND (0.224)	10	1	07/29/11 14:42		CG12825
Aroclor 1248	5.91 (1.12)	10	5	08/01/11 12:27		CG12825
Aroclor 1254	13.2 (1.12)	10	5	08/01/11 12:27		CG12825
Aroclor 1260	ND (0.224)	10	1	07/29/11 14:42		CG12825
Aroclor 1262	ND (0.224)	10	1	07/29/11 14:42		CG12825
Aroclor 1268	ND (0.224)	10	1	07/29/11 14:42		CG12825

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	87 %		30-150
Surrogate: Decachlorobiphenyl [2C]	80 %		30-150
Surrogate: Tetrachloro-m-xylene	100 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	97 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-51

Date Sampled: 07/26/11 15:15

Percent Solids: 84

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107259

ESS Laboratory Sample ID: 1107259-02

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 7/28/11 19:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.233)	10	1	07/29/11 15:20		CG12825
Aroclor 1221	ND (0.233)	10	1	07/29/11 15:20		CG12825
Aroclor 1232	ND (0.233)	10	1	07/29/11 15:20		CG12825
Aroclor 1242	ND (0.233)	10	1	07/29/11 15:20		CG12825
Aroclor 1248	3.13 (0.233)	10	1	07/29/11 15:20		CG12825
Aroclor 1254	7.56 (1.17)	10	5	08/01/11 13:03		CG12825
Aroclor 1260	ND (0.233)	10	1	07/29/11 15:20		CG12825
Aroclor 1262	ND (0.233)	10	1	07/29/11 15:20		CG12825
Aroclor 1268	ND (0.233)	10	1	07/29/11 15:20		CG12825

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	94 %		30-150
Surrogate: Decachlorobiphenyl [2C]	84 %		30-150
Surrogate: Tetrachloro-m-xylene	115 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	98 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-42A
Date Sampled: 07/26/11 15:20
Percent Solids: 63
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1107259
ESS Laboratory Sample ID: 1107259-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 7/28/11 19:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.311)	10	1	07/29/11 15:58		CG12825
Aroclor 1221	ND (0.311)	10	1	07/29/11 15:58		CG12825
Aroclor 1232	ND (0.311)	10	1	07/29/11 15:58		CG12825
Aroclor 1242	ND (0.311)	10	1	07/29/11 15:58		CG12825
Aroclor 1248	10.2 (1.56)	10	5	07/29/11 15:58		CG12825
Aroclor 1254	ND (0.311)	10	1	07/29/11 15:58		CG12825
Aroclor 1260	P 0.747 (0.311)	10	1	07/29/11 15:58		CG12825
Aroclor 1262	ND (0.311)	10	1	07/29/11 15:58		CG12825
Aroclor 1268	ND (0.311)	10	1	07/29/11 15:58		CG12825

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	84 %		30-150
Surrogate: Decachlorobiphenyl [2C]	83 %		30-150
Surrogate: Tetrachloro-m-xylene	73 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	97 %		30-150



ESS Laboratory

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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-43A

Date Sampled: 07/26/11 15:25

Percent Solids: 84

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107259

ESS Laboratory Sample ID: 1107259-04

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 7/28/11 19:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.233)	10	1	07/29/11 16:35		CG12825
Aroclor 1221	ND (0.233)	10	1	07/29/11 16:35		CG12825
Aroclor 1232	ND (0.233)	10	1	07/29/11 16:35		CG12825
Aroclor 1242	ND (0.233)	10	1	07/29/11 16:35		CG12825
Aroclor 1248	1.49 (0.233)	10	1	07/29/11 16:35		CG12825
Aroclor 1254	ND (0.233)	10	1	07/29/11 16:35		CG12825
Aroclor 1260	1.96 (0.233)	10	1	07/29/11 16:35		CG12825
Aroclor 1262	ND (0.233)	10	1	07/29/11 16:35		CG12825
Aroclor 1268	ND (0.233)	10	1	07/29/11 16:35		CG12825

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	93 %		30-150
Surrogate: Decachlorobiphenyl [2C]	92 %		30-150
Surrogate: Tetrachloro-m-xylene	81 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	93 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-44A

Date Sampled: 07/26/11 15:30

Percent Solids: 86

Initial Volume: 5.3

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107259

ESS Laboratory Sample ID: 1107259-05

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 7/28/11 19:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.219)	10	1	07/29/11 17:13		CG12825
Aroclor 1221	ND (0.219)	10	1	07/29/11 17:13		CG12825
Aroclor 1232	ND (0.219)	10	1	07/29/11 17:13		CG12825
Aroclor 1242	ND (0.219)	10	1	07/29/11 17:13		CG12825
Aroclor 1248	ND (0.219)	10	1	07/29/11 17:13		CG12825
Aroclor 1254	0.508 (0.219)	10	1	07/29/11 17:13		CG12825
Aroclor 1260	ND (0.219)	10	1	07/29/11 17:13		CG12825
Aroclor 1262	ND (0.219)	10	1	07/29/11 17:13		CG12825
Aroclor 1268	ND (0.219)	10	1	07/29/11 17:13		CG12825

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	86 %		30-150
Surrogate: Decachlorobiphenyl [2C]	87 %		30-150
Surrogate: Tetrachloro-m-xylene	96 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	89 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-46A

Date Sampled: 07/26/11 15:35

Percent Solids: 86

Initial Volume: 5.2

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107259

ESS Laboratory Sample ID: 1107259-06

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 7/28/11 19:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

Analyte	Results (MRL)	Limit	DF	Analyzed	Sequence	Batch
Aroclor 1016	ND (0.224)	10	1	07/29/11 17:51		CG12825
Aroclor 1221	ND (0.224)	10	1	07/29/11 17:51		CG12825
Aroclor 1232	ND (0.224)	10	1	07/29/11 17:51		CG12825
Aroclor 1242	ND (0.224)	10	1	07/29/11 17:51		CG12825
Aroclor 1248	0.790 (0.224)	10	1	07/29/11 17:51		CG12825
Aroclor 1254	1.06 (0.224)	10	1	07/29/11 17:51		CG12825
Aroclor 1260	ND (0.224)	10	1	07/29/11 17:51		CG12825
Aroclor 1262	ND (0.224)	10	1	07/29/11 17:51		CG12825
Aroclor 1268	ND (0.224)	10	1	07/29/11 17:51		CG12825

	%Recovery	Qualifier	Limits
Surrogate: Decachlorobiphenyl	86 %		30-150
Surrogate: Decachlorobiphenyl [2C]	84 %		30-150
Surrogate: Tetrachloro-m-xylene	72 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	87 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107259

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082 Polychlorinated Biphenyls (PCB)

Batch CG12825 - 3540

Blank

Aroclor 1016	ND	0.0500	mg/kg wet
Aroclor 1221	ND	0.0500	mg/kg wet
Aroclor 1232	ND	0.0500	mg/kg wet
Aroclor 1242	ND	0.0500	mg/kg wet
Aroclor 1248	ND	0.0500	mg/kg wet
Aroclor 1254	ND	0.0500	mg/kg wet
Aroclor 1260	ND	0.0500	mg/kg wet
Aroclor 1262	ND	0.0500	mg/kg wet
Aroclor 1268	ND	0.0500	mg/kg wet

Surrogate: Decachlorobiphenyl	0.0219	mg/kg wet	0.02500	88	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0202	mg/kg wet	0.02500	81	30-150
Surrogate: Tetrachloro-m-xylene	0.0198	mg/kg wet	0.02500	79	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0202	mg/kg wet	0.02500	81	30-150

LCS

Aroclor 1016	0.455	0.0500	mg/kg wet	0.5000	91	40-140
Aroclor 1260	0.485	0.0500	mg/kg wet	0.5000	97	40-140
<hr/>						
Surrogate: Decachlorobiphenyl	0.0236		mg/kg wet	0.02500	94	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0219		mg/kg wet	0.02500	88	30-150
Surrogate: Tetrachloro-m-xylene	0.0217		mg/kg wet	0.02500	87	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0209		mg/kg wet	0.02500	84	30-150

LCS Dup

Aroclor 1016	0.452	0.0500	mg/kg wet	0.5000	90	40-140	0.6	50
Aroclor 1260	0.473	0.0500	mg/kg wet	0.5000	95	40-140	2	50
<hr/>								
Surrogate: Decachlorobiphenyl	0.0227		mg/kg wet	0.02500	91	30-150		
Surrogate: Decachlorobiphenyl [2C]	0.0212		mg/kg wet	0.02500	85	30-150		
Surrogate: Tetrachloro-m-xylene	0.0206		mg/kg wet	0.02500	82	30-150		
Surrogate: Tetrachloro-m-xylene [2C]	0.0198		mg/kg wet	0.02500	79	30-150		



ESS Laboratory
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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107259

Notes and Definitions

U	Analyte included in the analysis, but not detected
P	Percent difference between primary and confirmation results exceeds 40% (P).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107259

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/labs/waterlabs-instate.php>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/out_state.pdf

Maine Potable and Non Potable Water: RI0002

http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/labcert/labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://www4.egov.nh.gov/des/nhelap/namesearch.asp>

New York (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301

http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

South Carolina Volatile Organic Compounds in Potable Water: 78003

New Jersey Potable (VOA) and Non Potable Water (RCRA), Solids and Hazardous Waste: RI002

<http://www.nj.gov/dep/oqa/certlabs.htm>

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

Sample and Cooler Receipt Checklist

Client: Woodard & Curran

Client Project ID: _____

Shipped/Delivered Via: ClientESS Project ID: 11070259Date Project Due: 8/2/11

Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?

☒ No

Air No.:

2. Were Custody Seals Present?

☐ No

3. Were Custody Seals Intact?

☐ N/A

4. Is Radiation count < 100 CPM?

☐ Yes

5. Is a cooler present?

☐ YesCooler Temp: 1.3Iced With: Ice

6. Was COC included with samples?

☐ Yes

7. Was COC signed and dated by client?

☐ Yes

8. Does the COC match the sample

☐ Yes

9. Is COC complete and correct?

☐ Yes

10. Are the samples properly preserved?

☐ Yes

11. Proper sample containers used?

☐ Yes

12. Any air bubbles in the VOA vials?

☐ N/A

13. Holding times exceeded?

☐ No

14. Sufficient sample volumes?

☐ Yes

15. Any Subcontracting needed?

☐ No

16. Are ESS labels on correct containers?

☒ Yes ☐ No

17. Were samples received intact?

☒ Yes ☐ No

ESS Sample IDs: _____

Sub Lab: _____

Analysis: _____

TAT: _____

18. Was there need to call project manager to discuss status? If yes, please explain.

Who was called?: _____

By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP

Completed By: mkDate/Time: 7/26/11Reviewed By: EODate/Time: 7/26/11



ESS Laboratory

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CERTIFICATE OF ANALYSIS

Janelle Bonn
Woodard & Curran - RI
95 Cedar Street, Suite 100
Providence, RI 02903

RE: SK Cranston (219303)

ESS Laboratory Work Order Number: 1107284

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director



Digitally signed by Melissa Pagliarini
Date: 2011.08.03 09:51:37 -04'00'

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.



ESS Laboratory

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BAL Laboratory

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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107284

SAMPLE RECEIPT

The following samples were received on July 27, 2011 for the analyses specified on the enclosed Chain of Custody Record.

<u>Lab Number</u>	<u>SampleName</u>	<u>Matrix</u>	<u>Analysis</u>
1107284-01	VB-52	Soil	8082
1107284-02	VB-53	Soil	8082
1107284-03	VB-54	Soil	8082
1107284-04	VB-55	Soil	8082
1107284-05	SW-56A	Soil	8082
1107284-06	SW-57A	Soil	8082



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107284

PROJECT NARRATIVE

No unusual observations noted.

End of Project Narrative.

DATA USABILITY LINKS

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-52

Date Sampled: 07/27/11 08:40

Percent Solids: 89

Initial Volume: 5

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107284

ESS Laboratory Sample ID: 1107284-01

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 7/28/11 19:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.225)	10	1	07/29/11 20:59		CG12825
Aroclor 1221	ND (0.225)	10	1	07/29/11 20:59		CG12825
Aroclor 1232	ND (0.225)	10	1	07/29/11 20:59		CG12825
Aroclor 1242	ND (0.225)	10	1	07/29/11 20:59		CG12825
Aroclor 1248	1.21 (0.225)	10	1	07/29/11 20:59		CG12825
Aroclor 1254	1.48 (0.225)	10	1	07/29/11 20:59		CG12825
Aroclor 1260	ND (0.225)	10	1	07/29/11 20:59		CG12825
Aroclor 1262	ND (0.225)	10	1	07/29/11 20:59		CG12825
Aroclor 1268	ND (0.225)	10	1	07/29/11 20:59		CG12825

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	88 %		30-150
Surrogate: Decachlorobiphenyl [2C]	85 %		30-150
Surrogate: Tetrachloro-m-xylene	83 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	90 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-53

Date Sampled: 07/27/11 09:00

Percent Solids: 86

Initial Volume: 5.2

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107284

ESS Laboratory Sample ID: 1107284-02

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 7/28/11 19:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.224)	10	1	07/29/11 21:37		CG12825
Aroclor 1221	ND (0.224)	10	1	07/29/11 21:37		CG12825
Aroclor 1232	ND (0.224)	10	1	07/29/11 21:37		CG12825
Aroclor 1242	ND (0.224)	10	1	07/29/11 21:37		CG12825
Aroclor 1248	ND (0.224)	10	1	07/29/11 21:37		CG12825
Aroclor 1254	0.233 (0.224)	10	1	07/29/11 21:37		CG12825
Aroclor 1260	ND (0.224)	10	1	07/29/11 21:37		CG12825
Aroclor 1262	ND (0.224)	10	1	07/29/11 21:37		CG12825
Aroclor 1268	ND (0.224)	10	1	07/29/11 21:37		CG12825

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	90 %		30-150
Surrogate: Decachlorobiphenyl [2C]	88 %		30-150
Surrogate: Tetrachloro-m-xylene	89 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	94 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-54
Date Sampled: 07/27/11 10:55
Percent Solids: 77
Initial Volume: 5.1
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1107284
ESS Laboratory Sample ID: 1107284-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 7/28/11 19:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.255)	10	1	07/29/11 22:15		CG12825
Aroclor 1221	ND (0.255)	10	1	07/29/11 22:15		CG12825
Aroclor 1232	ND (0.255)	10	1	07/29/11 22:15		CG12825
Aroclor 1242	ND (0.255)	10	1	07/29/11 22:15		CG12825
Aroclor 1248	4.07 (0.255)	10	1	07/29/11 22:15		CG12825
Aroclor 1254	ND (0.255)	10	1	07/29/11 22:15		CG12825
Aroclor 1260	0.493 (0.255)	10	1	07/29/11 22:15		CG12825
Aroclor 1262	ND (0.255)	10	1	07/29/11 22:15		CG12825
Aroclor 1268	ND (0.255)	10	1	07/29/11 22:15		CG12825

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	83 %		30-150
Surrogate: Decachlorobiphenyl [2C]	98 %		30-150
Surrogate: Tetrachloro-m-xylene	67 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	78 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-55

Date Sampled: 07/27/11 11:00

Percent Solids: 83

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107284

ESS Laboratory Sample ID: 1107284-04

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 7/28/11 19:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.236)	10	1	07/29/11 22:52		CG12825
Aroclor 1221	ND (0.236)	10	1	07/29/11 22:52		CG12825
Aroclor 1232	ND (0.236)	10	1	07/29/11 22:52		CG12825
Aroclor 1242	ND (0.236)	10	1	07/29/11 22:52		CG12825
Aroclor 1248	ND (0.236)	10	1	07/29/11 22:52		CG12825
Aroclor 1254	ND (0.236)	10	1	07/29/11 22:52		CG12825
Aroclor 1260	ND (0.236)	10	1	07/29/11 22:52		CG12825
Aroclor 1262	ND (0.236)	10	1	07/29/11 22:52		CG12825
Aroclor 1268	ND (0.236)	10	1	07/29/11 22:52		CG12825

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	89 %		30-150
Surrogate: Decachlorobiphenyl [ZC]	90 %		30-150
Surrogate: Tetrachloro-m-xylene	87 %		30-150
Surrogate: Tetrachloro-m-xylene [ZC]	82 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SW-56A
Date Sampled: 07/27/11 11:05
Percent Solids: 94
Initial Volume: 5.3
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1107284
ESS Laboratory Sample ID: 1107284-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 7/28/11 19:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.201)	10	1	07/29/11 23:30		CG12825
Aroclor 1221	ND (0.201)	10	1	07/29/11 23:30		CG12825
Aroclor 1232	ND (0.201)	10	1	07/29/11 23:30		CG12825
Aroclor 1242	ND (0.201)	10	1	07/29/11 23:30		CG12825
Aroclor 1248	1.84 (0.201)	10	1	07/29/11 23:30		CG12825
Aroclor 1254	2.62 (0.201)	10	1	07/29/11 23:30		CG12825
Aroclor 1260	ND (0.201)	10	1	07/29/11 23:30		CG12825
Aroclor 1262	ND (0.201)	10	1	07/29/11 23:30		CG12825
Aroclor 1268	ND (0.201)	10	1	07/29/11 23:30		CG12825

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	90 %		30-150
Surrogate: Decachlorobiphenyl [2C]	92 %		30-150
Surrogate: Tetrachloro-m-xylene	125 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	89 %		30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-57A

Date Sampled: 07/27/11 11:10

Percent Solids: 87

Initial Volume: 5.1

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1107284

ESS Laboratory Sample ID: 1107284-06

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 7/28/11 19:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.225)	10	1	07/30/11 0:08		CG12825
Aroclor 1221	ND (0.225)	10	1	07/30/11 0:08		CG12825
Aroclor 1232	ND (0.225)	10	1	07/30/11 0:08		CG12825
Aroclor 1242	ND (0.225)	10	1	07/30/11 0:08		CG12825
Aroclor 1248	ND (0.225)	10	1	07/30/11 0:08		CG12825
Aroclor 1254	ND (0.225)	10	1	07/30/11 0:08		CG12825
Aroclor 1260	ND (0.225)	10	1	07/30/11 0:08		CG12825
Aroclor 1262	ND (0.225)	10	1	07/30/11 0:08		CG12825
Aroclor 1268	ND (0.225)	10	1	07/30/11 0:08		CG12825

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	85 %		30-150
Surrogate: Decachlorobiphenyl [2C]	83 %		30-150
Surrogate: Tetrachloro-m-xylene	114 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	93 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107284

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082 Polychlorinated Biphenyls (PCB)

Batch CG12825 - 3540

Blank

Aroclor 1016	ND	0.0500	mg/kg wet
Aroclor 1221	ND	0.0500	mg/kg wet
Aroclor 1232	ND	0.0500	mg/kg wet
Aroclor 1242	ND	0.0500	mg/kg wet
Aroclor 1248	ND	0.0500	mg/kg wet
Aroclor 1254	ND	0.0500	mg/kg wet
Aroclor 1260	ND	0.0500	mg/kg wet
Aroclor 1262	ND	0.0500	mg/kg wet
Aroclor 1268	ND	0.0500	mg/kg wet

Surrogate: Decachlorobiphenyl	0.0219		mg/kg wet	0.02500		88	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0202		mg/kg wet	0.02500		81	30-150
Surrogate: Tetrachloro-m-xylene	0.0198		mg/kg wet	0.02500		79	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0202		mg/kg wet	0.02500		81	30-150

LCS

Aroclor 1016	0.455	0.0500	mg/kg wet	0.5000		91	40-140
Aroclor 1260	0.485	0.0500	mg/kg wet	0.5000		97	40-140
Surrogate: Decachlorobiphenyl	0.0236		mg/kg wet	0.02500		94	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0219		mg/kg wet	0.02500		88	30-150
Surrogate: Tetrachloro-m-xylene	0.0217		mg/kg wet	0.02500		87	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0209		mg/kg wet	0.02500		84	30-150

LCS Dup

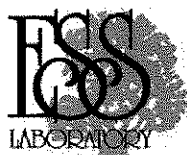
Aroclor 1016	0.452	0.0500	mg/kg wet	0.5000		90	40-140	0.6	50
Aroclor 1260	0.473	0.0500	mg/kg wet	0.5000		95	40-140	2	50
Surrogate: Decachlorobiphenyl	0.0227		mg/kg wet	0.02500		91	30-150		
Surrogate: Decachlorobiphenyl [2C]	0.0212		mg/kg wet	0.02500		85	30-150		
Surrogate: Tetrachloro-m-xylene	0.0206		mg/kg wet	0.02500		82	30-150		
Surrogate: Tetrachloro-m-xylene [2C]	0.0198		mg/kg wet	0.02500		79	30-150		

Matrix Spike Source: 1107284-06

Aroclor 1016	2.34	0.225	mg/kg dry	2.254	ND	104	40-140		
Aroclor 1260	2.06	0.225	mg/kg dry	2.254	ND	91	40-140		
Surrogate: Decachlorobiphenyl	0.0979		mg/kg dry	0.1127		87	30-150		
Surrogate: Decachlorobiphenyl [2C]	0.0964		mg/kg dry	0.1127		86	30-150		
Surrogate: Tetrachloro-m-xylene	0.137		mg/kg dry	0.1127		121	30-150		
Surrogate: Tetrachloro-m-xylene [2C]	0.107		mg/kg dry	0.1127		95	30-150		

Matrix Spike Dup Source: 1107284-06

Aroclor 1016	2.36	0.230	mg/kg dry	2.299	ND	103	40-140	1	50
Aroclor 1260	2.10	0.230	mg/kg dry	2.299	ND	91	40-140	2	50
Surrogate: Decachlorobiphenyl	0.0986		mg/kg dry	0.1149		86	30-150		
Surrogate: Decachlorobiphenyl [2C]	0.0969		mg/kg dry	0.1149		84	30-150		
Surrogate: Tetrachloro-m-xylene	0.138		mg/kg dry	0.1149		120	30-150		



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107284

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082 Polychlorinated Biphenyls (PCB)

Batch CG12825 - 3540

Surrogate: Tetrachloro-m-xylene [2C]	0.106	mg/kg dry	0.1149	93	30-150
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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107284

Notes and Definitions

U	Analyte included in the analysis, but not detected
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1107284

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/labs/waterlabs-instate.php>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/out_state.pdf

Maine Potable and Non Potable Water: RI0002

http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/labcert/labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://www4.egov.nh.gov/des/nhelap/namesearch.asp>

New York (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301

http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

South Carolina Volatile Organic Compounds in Potable Water: 78003

New Jersey Potable (VOA) and Non Potable Water (RCRA), Solids and Hazardous Waste: RI002

<http://www.nj.gov/dep/oqa/certlabs.htm>

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

Sample and Cooler Receipt Checklist

Client: Woodard & Curran

Client Project ID: _____

Shipped/Delivered Via: ESS CourierESS Project ID: 11070284Date Project Due: 8/3/11Days For Project: 5 Day**Items to be checked upon receipt:**

1. Air Bill Manifest Present?

☐ * No

Air No.:

2. Were Custody Seals Present?

☐ No

3. Were Custody Seals Intact?

☐ N/A

4. Is Radiation count < 100 CPM?

☐ Yes

5. Is a cooler present?

☐ YesCooler Temp: 2.0Iced With: Icepacks

6. Was COC included with samples?

☐ Yes

7. Was COC signed and dated by client?

☐ Yes

8. Does the COC match the sample

☐ Yes

9. Is COC complete and correct?

☐ Yes

10. Are the samples properly preserved?

☐ Yes

11. Proper sample containers used?

☐ Yes

12. Any air bubbles in the VOA vials?

☐ N/A

13. Holding times exceeded?

☐ No

14. Sufficient sample volumes?

☐ Yes

15. Any Subcontracting needed?

☐ No

16. Are ESS labels on correct containers?

☒ Yes ☐ No

17. Were samples received intact?

☒ Yes ☐ No

ESS Sample IDs: _____

Sub Lab: _____

Analysis: _____

TAT: _____

18. Was there need to call project manager to discuss status? If yes, please explain.

Who was called?: _____

By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP
5	Yes	4 oz Soil Jar	1	NP
6	Yes	4 oz Soil Jar	1	NP

Completed By: mkDate/Time: 7/27/11

Reviewed By: _____

Date/Time: 7/27/11

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston, RI 02910-2211
Tel. (401) 461-7181 Fax (401) 461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Page 1 of 1

Turn Time Standard Other _____
If faster than 5 days, prior approval by laboratory is required # _____
State where samples were collected from: MA CT NH NJ NY ME Other _____
Is this project for any of the following: MA-MCP Navy USACE Other _____
Electronic Deliverable Yes _____ No _____
Format: Excel _____ Access _____ PDF _____ Other _____

Co. Name Woodward & Corrigan
Contact Person JANE W BOND
City PROVIDENCE State RI Zip 02903
Telephone # 401 273 5087 Fax # 401-273 5087
Address 95 CEDAR ST. PO# _____
Email Address _____

Co. Name		Project #		Project Name (20 Char. or less)		Write Required Analysis														
Woodward & Curran		219303		SAFETY KLEEN																
Contact Person		Address		Address																
JANE ILE DONNY		95 CEDAR ST.		95 CEDAR ST.																
City		State		Zip		PO#														
Providence		RI		02903																
Telephone #		Fax #		Email Address																
401 273 5067		401-273 5067																		
ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Pres Code	Number of Containers	Type of Containers											
01	7/27/11	840		X	S	VB-SZ	1	1	G	X										
02	7/27/11	900		X	S	VB-S3	1	1	G	X										
03	7/27/11	1055		X	S	VB-S4	1	1	G	X										
04	7/27/11	1100		X	S	VB-S5	1	1	G	X										
05	7/27/11	1105		X	S	S2-S6A	1	1	G	X										
06	7/27/11	1110		X	S	S2-S7A	1	1	G	X										

Container Type: P-Poly G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters
Cooler Present X Yes _____ No _____ Internal Use Only _____
Seals Intact _____ Yes _____ No _____ NA: _____ [] Pickup
Cooler Temp: 2.0
Relinquished by: (Signature) [Signature] Date/Time 7/27/11 1230 Received by: (Signature) [Signature] Date/Time 7/27/11 1230
Relinquished by: (Signature) [Signature] Date/Time 7/27/11 1230 Received by: (Signature) [Signature] Date/Time 7/27/11 1230
Comments: 8082 with 883540 EXTRACTION
Sampled by: SEAN PRUSACK
Preservation Code 1- NR, 2- HCl, 3- H₂SO₄, 4- HNO₃, 5- NaOH, 6- MeOH, 7- Ascorbic Acid, 8- ZnAc, 9- _____

*By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VII A
Please fax all changes to Chain of Custody in writing.
1 (White) Lab Copy 2 (Yellow) Client Receipt
10/26/04 A



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CERTIFICATE OF ANALYSIS

Janelle Bonn
Woodard & Curran - RI
95 Cedar Street, Suite 100
Providence, RI 02903

RE: SK Cranston (219303)

ESS Laboratory Work Order Number: 1108081

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director



Digitally signed by Laurel Stoddard
Date: 2011.08.16 14:19:20 -04'00'

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1108081

SAMPLE RECEIPT

The following samples were received on August 05, 2011 for the analyses specified on the enclosed Chain of Custody Record.

Revision 1 August 16, 2011: Client Sample IDs for 1108081-03 and -04 have been revised.

<u>Lab Number</u>	<u>SampleName</u>	<u>Matrix</u>	<u>Analysis</u>
1108081-01	VB-42B	Soil	8082
1108081-02	VB-51A	Soil	8082
1108081-03	SW-59A	Soil	8082
1108081-04	SW-59B	Soil	8082



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1108081

PROJECT NARRATIVE

8082 Polychlorinated Biphenyls (PCB)

1108081-01 Percent difference between primary and confirmation results exceeds 40% (P).
Aroclor 1254
1108081-01 Surrogate recovery(ies) above upper control limit (S+).
Tetrachloro-m-xylene [2C] (151% @ 30-150%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: VB-42B
Date Sampled: 08/05/11 10:35
Percent Solids: 76
Initial Volume: 20
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1108081
ESS Laboratory Sample ID: 1108081-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/8/11 18:00

8082 Polychlorinated Biphenyls (PCB)

<u>Analyte</u>	<u>Results (MRL)</u>	<u>RI - RES DEC</u>		<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>			
Aroclor 1016	ND (0.0658)	10	1	08/09/11 18:05		CH10819
Aroclor 1221	ND (0.0658)	10	1	08/09/11 18:05		CH10819
Aroclor 1232	ND (0.0658)	10	1	08/09/11 18:05		CH10819
Aroclor 1242	ND (0.0658)	10	1	08/09/11 18:05		CH10819
Aroclor 1248	7.75 (0.658)	10	10	08/10/11 11:30		CH10819
Aroclor 1254	P 3.20 (0.658)	10	10	08/10/11 11:30		CH10819
Aroclor 1260	ND (0.0658)	10	1	08/09/11 18:05		CH10819
Aroclor 1262	ND (0.0658)	10	1	08/09/11 18:05		CH10819
Aroclor 1268	ND (0.0658)	10	1	08/09/11 18:05		CH10819

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	103 %		30-150
Surrogate: Decachlorobiphenyl [2C]	106 %		30-150
Surrogate: Tetrachloro-m-xylene	81 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	151 %	S+	30-150



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: VB-51A

Date Sampled: 08/05/11 10:40

Percent Solids: 83

Initial Volume: 20

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1108081

ESS Laboratory Sample ID: 1108081-02

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 8/8/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0602)	10	1	08/09/11 18:43		CH10819
Aroclor 1221	ND (0.0602)	10	1	08/09/11 18:43		CH10819
Aroclor 1232	ND (0.0602)	10	1	08/09/11 18:43		CH10819
Aroclor 1242	ND (0.0602)	10	1	08/09/11 18:43		CH10819
Aroclor 1248	ND (0.0602)	10	1	08/09/11 18:43		CH10819
Aroclor 1254	1.03 (0.0602)	10	1	08/09/11 18:43		CH10819
Aroclor 1260	ND (0.0602)	10	1	08/09/11 18:43		CH10819
Aroclor 1262	ND (0.0602)	10	1	08/09/11 18:43		CH10819
Aroclor 1268	ND (0.0602)	10	1	08/09/11 18:43		CH10819

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	111 %		30-150
Surrogate: Decachlorobiphenyl [2C]	127 %		30-150
Surrogate: Tetrachloro-m-xylene	70 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	134 %		30-150



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CERTIFICATE OF ANALYSIS

REVISED

2:18 pm, Aug 16, 2011

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-59A

Date Sampled: 08/05/11 10:45

Percent Solids: 97

Initial Volume: 20

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1108081

ESS Laboratory Sample ID: 1108081-03

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 8/8/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0515)	10	1	08/09/11 19:21		CH10819
Aroclor 1221	ND (0.0515)	10	1	08/09/11 19:21		CH10819
Aroclor 1232	ND (0.0515)	10	1	08/09/11 19:21		CH10819
Aroclor 1242	ND (0.0515)	10	1	08/09/11 19:21		CH10819
Aroclor 1248	ND (0.0515)	10	1	08/09/11 19:21		CH10819
Aroclor 1254	0.556 (0.0515)	10	1	08/09/11 19:21		CH10819
Aroclor 1260	ND (0.0515)	10	1	08/09/11 19:21		CH10819
Aroclor 1262	ND (0.0515)	10	1	08/09/11 19:21		CH10819
Aroclor 1268	ND (0.0515)	10	1	08/09/11 19:21		CH10819

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	97 %		30-150
Surrogate: Decachlorobiphenyl [2C]	93 %		30-150
Surrogate: Tetrachloro-m-xylene	105 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	100 %		30-150



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CERTIFICATE OF ANALYSIS

REVISED

2:19 pm, Aug 16, 2011

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

Client Sample ID: SW-59B

Date Sampled: 08/05/11 10:50

Percent Solids: 92

Initial Volume: 20

Final Volume: 10

Extraction Method: 3540

ESS Laboratory Work Order: 1108081

ESS Laboratory Sample ID: 1108081-04

Sample Matrix: Soil

Units: mg/kg dry

Analyst: IBM

Prepared: 8/8/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0543)	10	1	08/09/11 19:58		CH10819
Aroclor 1221	ND (0.0543)	10	1	08/09/11 19:58		CH10819
Aroclor 1232	ND (0.0543)	10	1	08/09/11 19:58		CH10819
Aroclor 1242	ND (0.0543)	10	1	08/09/11 19:58		CH10819
Aroclor 1248	ND (0.0543)	10	1	08/09/11 19:58		CH10819
Aroclor 1254	0.537 (0.0543)	10	1	08/09/11 19:58		CH10819
Aroclor 1260	ND (0.0543)	10	1	08/09/11 19:58		CH10819
Aroclor 1262	ND (0.0543)	10	1	08/09/11 19:58		CH10819
Aroclor 1268	ND (0.0543)	10	1	08/09/11 19:58		CH10819

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: Decachlorobiphenyl	95 %		30-150
Surrogate: Decachlorobiphenyl [2C]	92 %		30-150
Surrogate: Tetrachloro-m-xylene	103 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	96 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1108081

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082 Polychlorinated Biphenyls (PCB)

Batch CH10819 - 3540

Blank

Aroclor 1016	ND	0.0500	mg/kg wet
Aroclor 1221	ND	0.0500	mg/kg wet
Aroclor 1232	ND	0.0500	mg/kg wet
Aroclor 1242	ND	0.0500	mg/kg wet
Aroclor 1248	ND	0.0500	mg/kg wet
Aroclor 1254	ND	0.0500	mg/kg wet
Aroclor 1260	ND	0.0500	mg/kg wet
Aroclor 1262	ND	0.0500	mg/kg wet
Aroclor 1268	ND	0.0500	mg/kg wet

Surrogate: Decachlorobiphenyl	0.0221		mg/kg wet	0.02500		88	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0205		mg/kg wet	0.02500		82	30-150
Surrogate: Tetrachloro-m-xylene	0.0204		mg/kg wet	0.02500		82	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0209		mg/kg wet	0.02500		83	30-150

LCS

Aroclor 1016	0.482	0.0500	mg/kg wet	0.5000		96	40-140
Aroclor 1260	0.492	0.0500	mg/kg wet	0.5000		98	40-140
Surrogate: Decachlorobiphenyl	0.0233		mg/kg wet	0.02500		93	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0218		mg/kg wet	0.02500		87	30-150
Surrogate: Tetrachloro-m-xylene	0.0223		mg/kg wet	0.02500		89	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0213		mg/kg wet	0.02500		85	30-150

LCS Dup

Aroclor 1016	0.511	0.0500	mg/kg wet	0.5000		102	40-140	6	50
Aroclor 1260	0.512	0.0500	mg/kg wet	0.5000		102	40-140	4	50
Surrogate: Decachlorobiphenyl	0.0242		mg/kg wet	0.02500		97	30-150		
Surrogate: Decachlorobiphenyl [2C]	0.0227		mg/kg wet	0.02500		91	30-150		
Surrogate: Tetrachloro-m-xylene	0.0251		mg/kg wet	0.02500		101	30-150		
Surrogate: Tetrachloro-m-xylene [2C]	0.0243		mg/kg wet	0.02500		97	30-150		



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CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI

Client Project ID: SK Cranston

ESS Laboratory Work Order: 1108081

Notes and Definitions

U	Analyte included in the analysis, but not detected
S+	Surrogate recovery(ies) above upper control limit (S+).
P	Percent difference between primary and confirmation results exceeds 40% (P).
D	Diluted.
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1108081

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/labs/waterlabs-instate.php>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/out_state.pdf

Maine Potable and Non Potable Water: RI0002

http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/labcert/labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://www4.egov.nh.gov/des/nhelap/namesearch.asp>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301

http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

Sample and Cooler Receipt Checklist

Client: Woodard & Curran
Client Project ID: _____
Shipped/Delivered Via: Client

ESS Project ID: 11080081
Date Project Due: 8/12/11
Days For Project: 5 Day

Items to be checked upon receipt:

- | | | | |
|---|-------------------------------|---|---|
| 1. Air Bill Manifest Present? | <input type="checkbox"/> * No | 10. Are the samples properly preserved? | <input type="checkbox"/> Yes |
| Air No.: | | 11. Proper sample containers used? | <input type="checkbox"/> Yes |
| 2. Were Custody Seals Present? | <input type="checkbox"/> No | 12. Any air bubbles in the VOA vials? | <input type="checkbox"/> N/A |
| 3. Were Custody Seals Intact? | <input type="checkbox"/> N/A | 13. Holding times exceeded? | <input type="checkbox"/> No |
| 4. Is Radiation count < 100 CPM? | <input type="checkbox"/> Yes | 14. Sufficient sample volumes? | <input type="checkbox"/> Yes |
| 5. Is a cooler present? | <input type="checkbox"/> Yes | 15. Any Subcontracting needed? | <input type="checkbox"/> No |
| Cooler Temp: <u>3.1</u> | | 16. Are ESS labels on correct containers? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Iced With: <u>Icepacks</u> | | 17. Were samples received intact? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 6. Was COC included with samples? | <input type="checkbox"/> Yes | ESS Sample IDs: _____ | |
| 7. Was COC signed and dated by client? | <input type="checkbox"/> Yes | Sub Lab: _____ | |
| 8. Does the COC match the sample | <input type="checkbox"/> Yes | Analysis: _____ | |
| 9. Is COC complete and correct? | <input type="checkbox"/> Yes | TAT: _____ | |
| 18. Was there need to call project manager to discuss status? If yes, please explain. | | | |
| _____ | | | |
| _____ | | | |
| _____ | | | |

Who was called?: _____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	4 oz Soil Jar	1	NP
2	Yes	4 oz Soil Jar	1	NP
3	Yes	4 oz Soil Jar	1	NP
4	Yes	4 oz Soil Jar	1	NP

Completed By: ML
Reviewed By: VWS

Date/Time: 8/5/11
Date/Time: 8/5/11

1 (White) Lab Copy 2 (Yellow) Client Receipt

APPENDIX C: WASTE SHIPMENT RECORDS



Facility: Landfill
30 Rochester Street Rd
Rochester, NH, 03829
Tel: (603) 963-4776

Shipment
Ticket# 761502

Customer Name: WASTE/INDUSTRIAL UNITED INDUSTRIES
Ticket Date: 09/12/2011
Payment Type: Credit Account
Manual Ticket#:
Manifest Ticket#:
Route:
State Waste Code Name:
Manifest: 027/922
Destination:
Generator: NE-SAFETY/PLUMBING Safety Klean Systems
Company: UNITED THROUGH SOC UNITED INDUSTRIES
Material: 1962
Container:
Device:
Product:
Billing P: 0110200
Gen Ctn ID: Not Required
ID:
Profile: 400110001 (Contaminated Soil) (Dioxin)

	Time	Scale	Operation	Initials	Signs	
In	09/12/2011 14:25:36	Scale 1	inbound pit	hopper		65580 lb
Out	09/12/2011 15:26:13	Scale 2	outbound	hopper		60600 lb
					Net	24940 lb
					Time	10.47

Comments:

Product	LEW	Qty	Unit	Rate	Fee	Amount	Origin
1 Cont Soil Mat-Tons 100		12.47	Tons				CT
2 RHD-Fuel Surcharg 100							CT
3 ERF-P75-Envl-mgmt 100							CT

Total Fees
Total Ticket

ON TO WASTE TRANSPORTER DECLARATION: I certify under penalty of perjury that the information provided is true and correct to the best of my knowledge and belief. TO THE BEST OF MY KNOWLEDGE THIS TRUCK CONTAINS NO HAZARDOUS OR UNACCEPTABLE WASTE.

Driver's Signature
405WM-Gonic

NONHAZARDOUS WASTE MANIFEST

TR 62

Please type (or print)		1. Generator's US EPA ID No. R T D 0 8 4 8 0 7 8 4 2		Manifest Document No. 3 1 9 7 2		2. Page 1 of 1	
3. Generator's Name and Mailing Address Safety-Kleen Systems, Inc. 157 Mill Street Cranston, RI 02905				A. Nonhazardous Waste Manifest Document Number UIS A 0337972			
4. Generator's Phone (401) 781-0808				B. G.S.I. (Gen. Site Address) Safety-Kleen Systems, Inc. 157 Mill Street Cranston, RI 02905			
5. Transporter 1 Company Name UNITED INDUSTRIAL SERVICES		6. US EPA ID Number C-T-D-0-2-1-5-1-6-8-8-8		C. S.T.I. (Trans. Lic. Plate #) V34421			
7. Transporter 2 Company Name		8. US EPA ID Number		D. Tran. Phone (203) 238-6745			
9. Designated Facility Name and Site Address WASTE MANAGEMENT OF NH -TARE 80 ROCHESTER NECK ROAD ROCHESTER, NH 03629				10. US EPA ID Number N.O.T. R.E.Q.U.I.R.E.D			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers No. Type		13. Total Quantity	
a. NON DOT / NON RCRA REGULATED MATERIAL NONE, NONE, NONE				0-0-1 C-M 20 yds.		14. Unit Wt/Vol 70	
b.						EPA Waste No. NONE	
c.						STATE NONE	
d.						EPA STATE	
J. Additional Descriptions for Materials Listed Above PCB impacted soil - Non TSCA a. #490110NH				K. Handling Codes for Wastes Listed Above			
b.				c.		d.	
15. Special Handling Instructions and Additional Information EMERGENCY PH#(203)238-6745 a) E060311010 - EMERGENCY RESPONSE GUIDE # N/A (490110NH)				Point of Departure:			
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, and all applicable State laws and regulations.				Printed/Typed Name Mans Lajoie			
				Signature [Signature]		Month Day Year 09/12/11	
17. Transporter 1 Acknowledgement of Receipt of Materials				Printed/Typed Name Mose Denoble			
				Signature [Signature]		Month Day Year 09/12/11	
18. Transporter 2 Acknowledgement of Receipt of Materials				Printed/Typed Name			
				Signature		Month Day Year	
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.				Printed/Typed Name [Signature]			
				Signature [Signature]		Month Day Year 09/12/11	

COPY 3 TRANSPORTER COPY



Dunkley Landfill
30 Rochester Neck Rd
Rochester, NH 03029
Ph: (603) 963-4775

Original
Ticket# 763382

Customer Name UNITED INDUSTRIES UNITED INDUSTRIES Carrier UNITED INDUST SVCS UNITED INDUSTRIES
Ticket Date 09/12/2011 Vehicle# T863 Volume
Payment Type Credit Account Container
Manual Ticket# Driver
Hauling Ticket# Check#
Route Routing # 0110200
State Waste Code None Gen EPA ID Not Required
Manifest 0337973 PG
Destination Profile 49011000 (Contaminated Soil Dispo)
Generator NE-SAFETYKLEENPALMER Safety Klean Systems

Time	Scale	Operator	Inbound	Gross	
In 09/12/2011 14:24:04	scale 1	inbound phil holmes		Tare	61900 lb
Out 09/12/2011 15:23:46	scale 2	outbound eric metzler		Net	39760 lb
				Tons	82140 lb
					11.07

Comments

Product	LD%	Qty	Unit	Rate	Fee	Amount	Origin
1 Cont Soil Mch-Tons	100	11.07	Tons				CT
2 FUEL-Fuel Surcharg	100		%				CT
3 ERF-075-Fuelcommon	100		%				CT

Total Fees
Total Ticket

SOLID WASTE TRANSPORTER DECLARATION: I certify under penalty of perjury that the information provided is true and correct to the best of my knowledge and belief. TO THE BEST OF MY KNOWLEDGE THIS TRUCK CONTAINS NO HAZARDOUS OR UNACCEPTABLE WASTE.

Driver's Signature
405WM-Gonic

[Signature]

NONHAZARDOUS WASTE MANIFEST

TR 63

Please type (or print)		1. Generator's US EPA ID No. R T D 0 8 4 5 0 2 3 4 2	Manifest Document No.	2. Page 1 1 of 1	
3. Generator's Name and Mailing Address Safety-Kleen Systems, Inc. 167 Mill Street Cranston, RI 02905 Generator's Phone (401) 781-0888		6. US EPA ID Number RTD084502342		A. Nonhazardous Waste Manifest Document Number UIS A 0337973	
5. Transporter 1 Company Name UNITED INDUSTRIAL SERVICES		8. US EPA ID Number		B. G.S.I. (Gen. Site Address) Safety-Kleen Systems, Inc. 167 Mill Street Cranston, RI 02905	
7. Transporter 2 Company Name		10. US EPA ID Number		C. S.T.I. (Trans. Lic. Plate #) D. Tran. Phone (203) 238-6745	
9. Designated Facility Name and Site Address WASTE MANAGEMENT OF NH - TREE 90 ROCHESTER NECK ROAD ROCHESTER, NH 03839		11. US DOT Description (including Proper Shipping Name, Hazard Class and ID Number)		E. S.T.I. (Trans. Lic. Plate #) F. Tran. Phone () G. State Facility's ID (Not Required) H. Facility's Phone 603-3322385	
		12. Containers No. Type		13. Total Quantity	14. Unit Wt/Vol
a. NON DOT / NON RCRA REGULATED MATERIAL NONE, NONE, , NONE		0-0-1 C-M		2-0-0-0-0	✓
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above PCB impacted soil - Non TSCA a. #490110NH		K. Handling Codes for Wastes Listed Above Interim Final Interim Final a. b. c. d.			
15. Special Handling Instructions and Additional Information EMERGENCY PH#(203)238-6745 a) F050311010 - EMERGENCY RESPONSE GUIDE # N/A (490110NH)					
Point of Departure:					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, and all applicable State laws and regulations.					
Printed/Typed Name Mark L. Loria		Signature <i>Mark L. Loria</i>		Month Day Year 09/11/2011	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Augusto Lora		Signature <i>Augusto Lora</i>		Month Day Year 09/11/2011	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.					
Printed/Typed Name Philip J. T...		Signature <i>Philip J. T...</i>		Month Day Year 9/12/11	

COPY 3 TRANSPORTER COPY

ARRIVED DATE	PROFILE NUMBER	NET WEIGHT (LBS)	MANIFEST #	RECEIPT #
06/10/11	NY302531	27680.00	000208917UIS	081645407
	NY302531	21860.00	000208919UIS	081645408
	TOTAL	49540.00		
06/21/11	NY302531	35520.00	000206515UIS	081645573
	TOTAL	35520.00		
06/24/11	NY302531	25840.00	000206581UIS	081645667
	TOTAL	25840.00		
08/04/11	NY302531	24260.00	000206970UIS	081646338
	TOTAL	24260.00		
08/09/11	NY302531	34420.00	008931019JJK	081646446
	TOTAL	34420.00		
	TOTAL	169580.00		

* * * E N D O F R E P O R T * * *

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number RID084302842	2. Page 1 of 1	3. Emergency Response Phone (203) 238-5745	4. Manifest Tracking Number 000208917 UIS			
5. Generator's Name and Mailing Address Safety-Kleen Systems, Inc. 167 Mill Street Cranston, RI 02905 Generator's Phone: 401 781-0808			Generator's Site Address (if different than mailing address) Safety-Kleen Systems, Inc. 167 Mill Street Cranston, RI 02905					
6. Transporter 1 Company Name UNITED INDUSTRIAL SERVICES				U.S. EPA ID Number CTD021816889				
7. Transporter 2 Company Name				U.S. EPA ID Number				
8. Designated Facility Name and Site Address CWM Chemical Services, LLC 1550 Blamer Road Model City, NY 14107 Facility's Phone: 716 7548231				U.S. EPA ID Number NYD049806679				
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))		10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	X	1. UN3432, POLYCHLORINATED BIPHENYL3, SOLID, MIXTURE, 9, PG II, RQ		001	CM	19000	K	R007
		2.						
		3.						
		4.						
14. Special Handling Instructions and Additional Information <div style="display: flex; justify-content: space-between;"> <div> EMERGENCY PH#(203) 238-6745 81645408 </div> <div> 1) F060311005 - EMERGENCY RESPONSE GUIDE # 171 <i>(NY30253)</i> <i>NY30253/12/6/10</i> <i>Rec'd 12556K</i> </div> </div>								
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.								
Generator's/Offeror's Printed/Typed Name <i>Matthew Noveck</i>				Signature <i>[Signature]</i>		Month Day Year 06 9 11		
TRANSPORTER	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____							
	17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name <i>Ted Lukaszik</i> Signature <i>[Signature]</i> Month Day Year 6 9 11 Transporter 2 Printed/Typed Name _____ Signature _____ Month Day Year _____							
DESIGNATED FACILITY	18. Discrepancy 18a. Discrepancy Indication Space <input checked="" type="checkbox"/> Quantity <input checked="" type="checkbox"/> Type <i>B007 NOT R007</i> <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection <i>int. est. generator resolved actual rec'd 12556K</i>							
	18b. Alternate Facility (or Generator)				U.S. EPA ID Number			
	Facility's Phone:							
	18c. Signature of Alternate Facility (or Generator)				Month Day Year			
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)								
1. <i>H132</i>			2.		3.		4.	
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a Printed/Typed Name <i>Eileen CARTON</i> Signature <i>Eileen Carter</i> Month Day Year 6 10 11								



CWM CHEMICAL SERVICES, LLC

1550 Balmer Road
Model City, NY 14107
(716) 286-1550
(716) 286-0211 Fax


SAFETY-KLEEN SYSTEMS INC
ATTN: ENVIRONMENTAL COMPLIANCE DEPT.
RID084840282
167 MILL ST
CRANSTON RI 02905

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from SAFETY-KLEEN SYSTEMS INC on 06/10/11 as described on Shipping Document number 000208917UIS Sequence number 01. CWM CHEMICAL SERVICES, L.L.C. hereby certifies that the above described material was landfilled in accordance with the 40 CFR part 761 as it pertains to the land disposal of polychlorinated biphenyl contaminated materials.


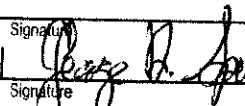
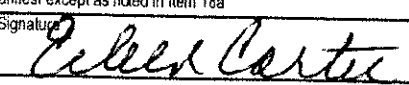
Profile Number: NY302531
CWM Tracking ID: 8164540701
CWM Unit #: 1*0
Disposal Date: 06/10/11

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete.


MICHAEL D. MAHAR
DISTRICT MANAGER
Certificate # 346253
06/13/11

For questions please call
our Customer Service Dept.
at (800) 843-3604

From everyday collection to environmental protection, Think Green® Think Waste Management.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number RI0081202842		2. Page 1 of 1		3. Emergency Response Phone (203) 238-6745		4. Manifest Tracking Number 000208919 UIS	
		5. Generator's Name and Mailing Address Safety-Klean Systems, Inc. 167 Mill Street Cranston, RI 02905		Generator's Site Address (if different than mailing address) Safety-Klean Systems, Inc. 167 Mill Street Cranston, RI 02905		6. Transporter 1 Company Name UNITED INDUSTRIAL SERVICES		U.S. EPA ID Number CTD021816889	
Generator's Phone: 401 781-0308		7. Transporter 2 Company Name		U.S. EPA ID Number		8. Designated Facility Name and Site Address CWM Chemical Services, LLC 1550 Blamer Road Model City, NY 14107		U.S. EPA ID Number NYD049836679	
Facility's Phone: 716 7548231		9a. HM		9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))		10. Containers No. Type		11. Total Quantity	
								12. Unit Wt./Vol.	
								13. Waste Codes	
GENERATOR		1. X		UN3432, POLYCHLORINATED BIPHENYLS, SOLID, MIXTURE, 9, PG II, RQ		001 CM		19000	
		2.							
		3.							
		4.							
14. Special Handling Instructions and Additional Information EMERGENCY PH#(203) 238-6745 1) P050311005 - EMERGENCY RESPONSE GUIDE # 171 NY 302531 2/4/10 81645408 Reid 9916K									
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.									
Generator's/Officer's Printed/Typed Name MAHUA Newell Signature  Month Day Year 10 06 11									
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: Date leaving U.S.: 10 06 11									
17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name George A. Spragg Signature  Month Day Year 10 06 11 Transporter 2 Printed/Typed Name Signature Month Day Year									
18. Discrepancy 18a. Discrepancy Indication Space <input checked="" type="checkbox"/> Quantity <input checked="" type="checkbox"/> Type BOO7 NOT R007 <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection qty est. generator resolved actual Reid 9916K Manifest Reference Number: U.S. EPA ID Number									
18b. Alternate Facility (or Generator) Facility's Phone: U.S. EPA ID Number									
18c. Signature of Alternate Facility (or Generator) Month Day Year									
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems) 1. H132 2. 3. 4.									
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a Printed/Typed Name ELLEN CARTER Signature  Month Day Year 10 10 11									



CWM CHEMICAL SERVICES, LLC

1550 Balmer Road
Model City, NY 14107
(716) 286-1550
(716) 286-0211 Fax

SAFETY-KLEEN SYSTEMS INC
ATTN: ENVIRONMENTAL COMPLIANCE DEPT.
RID084840282
167 MILL ST
CRANSTON RI 02905

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from SAFETY-KLEEN SYSTEMS INC on 06/10/11 as described on Shipping Document number 000208919UIS Sequence number 01. CWM CHEMICAL SERVICES, L.L.C. hereby certifies that the above described material was landfilled in accordance with the 40 CFR part 761 as it pertains to the land disposal of polychlorinated biphenyl contaminated materials.

Profile Number: NY302531
CWM Tracking ID: 8164540801
CWM Unit #: 1*0
Disposal Date: 06/10/11

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete.

MICHAEL D MAHAR
DISTRICT MANAGER
Certificate # 346254
06/13/11

For questions please call
our Customer Service Dept.
at (800) 843-3604

From everyday collection to environmental protection, Think Green® Think Waste Management.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number RID084802842		2. Page 1 of 1		3. Emergency Response Phone (203) 238-6745		4. Manifest Tracking Number 000206515 UIS					
		5. Generator's Name and Mailing Address Safety-Kleen Systems, Inc. 167 Mill Street Cranston, RI 02905		Generator's Site Address (if different than mailing address) Safety-Kleen Systems, Inc. 167 Mill Street Cranston, RI 02905		Generator's Phone: 401 781-0808							
GENERATOR		6. Transporter 1 Company Name UNITED INDUSTRIAL SERVICES				U.S. EPA ID Number CTD021815889							
		7. Transporter 2 Company Name				U.S. EPA ID Number							
DESIGNATED FACILITY		8. Designated Facility Name and Site Address CWM Chemical Services, LLC 1550 Blamer Road Model City, NY 14107				U.S. EPA ID Number NYD049836679							
		Facility's Phone: 716 7548231											
TRANSPORTER		9a. HM		9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))		10. Containers No. Type		11. Total Quantity		12. Unit Wt./Vol.		13. Waste Codes	
		1.		UN3432, POLYCHLORINATED BIPHENYLS, SOLID, MIXTURE, 9, PG II, RQ		001 CM		EST 15.000		K		B007 B007 6/21/11	
		2.											
		3.											
		4.											
INT'L		14. Special Handling Instructions and Additional Information 816 45573 1) F060311005 - EMERGENCY RESPONSE GUIDE # 171 (NY 302531) EMERGENCY PH# (203) 238-6745 WEIGHT IS ESTIMATED OUT OF SERVICE DATE: 06/17/11 Recd 10/11/11											
		15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.											
TRANSPORTER		Generator's/Offeror's Printed/Typed Name M BETTENCOURT				Signature M Bettencourt				Month Day Year 06 20 11			
		16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.				Port of entry/exit: Date leaving U.S.:							
TRANSPORTER		17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name JAN MAGDZIK				Signature Jan Magdzik				Month Day Year 06 20 11			
		Transporter 2 Printed/Typed Name				Signature				Month Day Year			
DESIGNATED FACILITY		18. Discrepancy 18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection Manifest Reference Number:											
		18b. Alternate Facility (or Generator) U.S. EPA ID Number Facility's Phone:											
DESIGNATED FACILITY		18c. Signature of Alternate Facility (or Generator) Month Day Year											
		19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems) 1. H132 2. 3. 4.											
DESIGNATED FACILITY		20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a Printed/Typed Name Lynn Pechowski											
		Signature Lynn Pechowski				Month Day Year 06 21 11							



CWM CHEMICAL SERVICES, LLC

1550 Balmer Road
Model City, NY 14107
(716) 286-1550
(716) 286-0211 Fax

SAFETY-KLEEN SYSTEMS INC
ATTN: ENVIRONMENTAL COMPLIANCE DEPT.
RID084840282
167 MILL ST
CRANSTON RI 02905

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from SAFETY-KLEEN SYSTEMS INC on 06/21/11 as described on Shipping Document number 000206515UIS Sequence number 01. CWM CHEMICAL SERVICES, L.L.C. hereby certifies that the above described material was landfilled in accordance with the 40 CFR part 761 as it pertains to the land disposal of polychlorinated biphenyl contaminated materials.

Profile Number: NY302531
CWM Tracking ID: 8164557301
CWM Unit #: 1*0
Disposal Date: 06/21/11

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who acting under my direct instructions, made the verification that this information is true accurate and complete.

MICHAEL D MAHAR
DISTRICT MANAGER
Certificate # 346461
06/22/11

For questions please call
our Customer Service Dept.
at (800) 843-3604

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UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number RID084802842		2. Page 1 of 1		3. Emergency Response Phone (203) 238-6745		4. Manifest Tracking Number 000206581 UIS			
		5. Generator's Name and Mailing Address Safety-Kleen Systems, Inc. 167 Mill Street Cranston, RI 02905 Generator's Phone: 401 781-0808						Generator's Site Address (if different than mailing address) Safety-Kleen Systems, Inc. 167 Mill Street Cranston, RI 02905			
6. Transporter 1 Company Name UNITED INDUSTRIAL SERVICES		U.S. EPA ID Number CTD021816889									
		7. Transporter 2 Company Name		U.S. EPA ID Number							
8. Designated Facility Name and Site Address CWM Chemical Services, LLC 1550 Blamer Road Model City, NY 14107 Facility's Phone: 716 7548231		U.S. EPA ID Number NYD049836679									
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))				10. Containers No. Type		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
	X	UN3432, POLYCHLORINATED BIPHENYLS, SOLID, MIXTURE, 9, PG II, RQ				001 CM		E.S.V. 12500	K	Boo1	
14. Special Handling Instructions and Additional Information CA# 2040 8/645667 RCD 11/21 K 1) F060311005 - EMERGENCY RESPONSE GUIDE # 171 (NY5302531) EMERGENCY PH# (203) 238-6745 WEIGHT IS ESTIMATED OUT OF SERVICE DATE: 6-21-10 NY302531											
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.											
Generator's/Offendor's Printed/Typed Name X M BENENCOURT Signature X M BENENCOURT Month 6 Day 23 Year 11											
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____ Transporter signature (for exports only): _____											
TRANSPORTER	17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name Ted Lukasik Signature Ted Lukasik Month 6 Day 23 Year 11 Transporter 2 Printed/Typed Name _____ Signature _____ Month _____ Day _____ Year _____										
	18. Discrepancy 18a. Discrepancy indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection Manifest Reference Number: _____ 18b. Alternate Facility (or Generator) U.S. EPA ID Number _____ Facility's Phone: _____ 18c. Signature of Alternate Facility (or Generator) _____ Month _____ Day _____ Year _____										
DESIGNATED FACILITY	19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems) 1. H132 2. _____ 3. _____ 4. _____										
	20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a Printed/Typed Name ELMO HOSTER Signature ELMO HOSTER Month 6 Day 24 Year 11										



CWM CHEMICAL SERVICES, LLC

1550 Balmer Road
Middletown, NY 14107
(716) 286-1550
(716) 286-0211 Fax

SAFETY-KLEEN SYSTEMS INC
ATTN: ENVIRONMENTAL COMPLIANCE DEPT.
RID084840282
167 MILL ST
CRANSTON RI 02905

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from SAFETY-KLEEN SYSTEMS INC on 06/24/11 as described on Shipping Document number 000206581UIS Sequence number 01. CWM CHEMICAL SERVICES, L.L.C. hereby certifies that the above described material was landfilled in accordance with the 40 CFR part 761 as it pertains to the land disposal of polychlorinated biphenyl contaminated materials.

Profile Number: NY302531
CWM Tracking ID: 8164566701
CWM Unit #: 1*0
Disposal Date: 06/24/11

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete.

MICHAEL D MAHAR
DISTRICT MANAGER
Certificate # 346573
06/27/11

For questions please call
our Customer Service Dept.
at (800) 843-3604

From everyday collection to environmental protection, Think Green® Think Waste Management.

ARRIVED DATE	PROFILE NUMBER	NET WEIGHT (LBS)	MANIFEST #	RECEIPT #
08/04/11	NY302531	24260.00	000206970UIS	081646338
	TOTAL	24260.00		
08/09/11	NY302531	34420.00	008931019JJK	081646446
	TOTAL	34420.00		
	TOTAL	58680.00		

* * * E N D O F R E P O R T * * *

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number RID084802842	2. Page 1 of 1	3. Emergency Response Phone 12031238-6745	4. Manifest Tracking Number 000206970 UIS	
5. Generator's Name and Mailing Address Safety-Kleen Systems, Inc. 167 Mill Street Cranston, RI 02905 Generator's Phone: 401 781-0808			Generator's Site Address (if different than mailing address) Safety-Kleen Systems, Inc. 167 Mill Street Cranston, RI 02905			
6. Transporter 1 Company Name UNITED INDUSTRIAL SERVICES			U.S. EPA ID Number CTD021816889			
7. Transporter 2 Company Name			U.S. EPA ID Number			
8. Designated Facility Name and Site Address CWM Chemical Services, LLC 1550 Blamer Road Model City, NY 14107 Facility's Phone: 716 7548231			U.S. EPA ID Number NYD049836679			
9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No. Type		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
8	1. UN3432, POLYCHLORINATED BIPHENYLS, SOLID, MIXTURE, 9, PG II, RQ	001 CM		Est 13636	K	DOBT Boot
	2.					
	3.					
	4.					
14. Special Handling Instructions and Additional Information PCB CONTAMINATED SPILL @ 2/11/11 F050311005 - EMERGENCY RESPONSE GUIDE # 171 NY302531 EMERGENCY PH# (203) 238-6745 81646338 recd 11004K PCB OOS = 7/27/11 @ 9/11						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Officer's Printed/Typed Name Matthew Nowell			Signature 		Month Day Year 8 3 11	
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: Date leaving U.S.:						
17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name George H. Spring Signature Transporter 2 Printed/Typed Name Signature Month Day Year 08 10 11						
18. Discrepancy 18a. Discrepancy Indication Space <input checked="" type="checkbox"/> Quantity <input checked="" type="checkbox"/> Type Item 13 ADD BOOT <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection qty est actual recd 11004K 18b. Alternate Facility (or Generator) Manifest Reference Number: U.S. EPA ID Number Facility's Phone: 18c. Signature of Alternate Facility (or Generator) Month Day Year						
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems) 1. H132 2. 3. 4.						
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a Printed/Typed Name Jody Parfinski Signature Jody Parfinski Month Day Year 18 4 11						



CWM CHEMICAL SERVICES, LLC

1550 Balmer Road
Model City, NY 14107
(716) 286-1550
(716) 286-0211 Fax

UNITED OIL RECOVERY
ATTN: ENVIRONMENTAL COMPLIANCE DEPT.
RID084802842
167 MILL ST
CRANSTON RI 02905-1049

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from UNITED OIL RECOVERY on 08/04/11 as described on Shipping Document number 000206970UIS Sequence number 01. CWM CHEMICAL SERVICES, L.L.C. hereby certifies that the above described material was landfilled in accordance with the 40 CFR part 761 as it pertains to the land disposal of polychlorinated biphenyl contaminated materials.

Profile Number: NY302531
CWM Tracking ID: 8164633801
CWM Unit #: 1*0
Disposal Date: 08/04/11

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete.

MICHAEL D MAHAR
DISTRICT MANAGER
Certificate # 347432
08/08/11

For questions please call
our Customer Service Dept.
at (800) 843-3604

From everyday collection to environmental protection, Think Green® Think Waste Management.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number RID064602842	2. Page 1 of 1	3. Emergency Response Phone (203) 238-6745	4. Manifest Tracking Number 008931019 JJK	
5. Generator's Name and Mailing Address Safety-Kleen Systems, Inc. 167 Mill Street Cranston, RI 02905 Generator's Phone: 401 781-0808			Generator's Site Address (if different than mailing address) Safety-Kleen Systems, Inc. 167 Mill Street Cranston, RI 02905			
6. Transporter 1 Company Name UNITED INDUSTRIAL SERVICES			U.S. EPA ID Number CTD021816689			
7. Transporter 2 Company Name			U.S. EPA ID Number			
8. Designated Facility Name and Site Address CWM Chemical Services, LLC 1550 Blamer Road Model City, NY 14107 Facility's Phone: 716 7548231			U.S. EPA ID Number NYD049636679			
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No. Type		11. Total Quantity	12. Unit Wt./Vol.
	X	1. UN3432, POLYCHLORINATED BIPHENYLS, SOLID, MIXTURE, 9, PG II, RQ	001 CM		14881	K
		2.			8819/11	
		3.				
		4.				
13. Waste Codes 8007						
14. Special Handling Instructions and Additional Information 81646446 Recd 15613K EMERGENCY PH# (203) 238-6745 1) PD60311005 - EMERGENCY RESPONSE GUIDE # 171 NY302531 WEIGHT IS ESTIMATED OUT OF SERVICE DATE: 8/5/11 PCB CONTAMINATED SOIL						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Offor's Printed/Typed Name M BETTEUCOURT Signature M Betteucourt Month 8 Day 8 Year 11						
INTL	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: Date leaving U.S.:					
TRANSPORTER	17. Transporter Acknowledgment of Receipt of Materials					
	Transporter 1 Printed/Typed Name Augusto Lima Signature Augusto Lima Month 8 Day 8 Year 11		Transporter 2 Printed/Typed Name Signature Month Day Year			
DESIGNATED FACILITY	18. Discrepancy					
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection					
	18b. Alternate Facility (or Generator) Manifest Reference Number: U.S. EPA ID Number					
	Facility's Phone: 18c. Signature of Alternate Facility (or Generator) Month Day Year					
	19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)					
1. H132		2.		3.		4.
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a Printed/Typed Name Jody Parfinski Signature Jody Parfinski Month 8 Day 19 Year 11						



CWM CHEMICAL SERVICES, LLC

1550 Balmer Road
Model City, NY 14107
(716) 286-1550
(716) 286-0211 Fax

UNITED OIL RECOVERY
ATTN: ENVIRONMENTAL COMPLIANCE DEPT.
RID084802842
167 MILL ST
CRANSTON RI 02905-1049

CERTIFICATE OF DISPOSAL

CWM CHEMICAL SERVICES, L.L.C., EPA ID: NYD049836679, has received waste material from UNITED OIL RECOVERY on 08/09/11 as described on Shipping Document number 008931019JJK Sequence number 01. CWM CHEMICAL SERVICES, L.L.C. hereby certifies that the above described material was landfilled in accordance with the 40 CFR part 761 as it pertains to the land disposal of polychlorinated biphenyl contaminated materials.

Profile Number: NY302531
CWM Tracking ID: 8164644601
CWM Unit #: 1*0
Disposal Date: 08/09/11

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true accurate and complete. As to the identified section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true accurate and complete.

MICHAEL D MAHAR
DISTRICT MANAGER
Certificate # 347587
08/10/11

For questions please call
our Customer Service Dept.
at (800) 843-3604

From everyday collection to environmental protection, Think Green® Think Waste Management.

APPENDIX D: LABORATORY DATA – BACKFILL SOIL (ON CD)



CERTIFICATE OF ANALYSIS

Janelle Bonn
Woodard & Curran - RI
95 Cedar Street, Suite 100
Providence, RI 02903

RE: SK Cranston (219303)
ESS Laboratory Work Order Number: 1106301

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director



Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

ESS Laboratory certifies that the test results meet the requirements of NELAC and A2LA, except where noted within this project narrative.



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

SAMPLE RECEIPT

The following samples were received on June 24, 2011 for the analyses specified on the enclosed Chain of Custody Record.

Lab Number	SampleName	Matrix	Analysis
1106301-01	SP 3/4 Loam 1	Soil	6010B, 7471A, 7841, 8081A, 8082, 8100M, 8260B Low, 8270C, 9014

CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level1106301-01 Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).

1,4-Dichlorobenzene-D4 (48% @ 50-200%)

CF12704-BSD1 Blank Spike recovery is below lower control limit (B-).

Diethyl Ether (69% @ 70-130%)

CF12704-BSD1 Relative percent difference for duplicate is outside of criteria (D+).

Acetone (27%)

8081A Organochlorine Pesticides1106301-01 Percent difference between primary and confirmation results exceeds 40% (P).

alpha-Chlordane [2C]

CUF0170-CCV3 Percent difference between primary and confirmation results exceeds 40% (P).

Hexachlorobenzene (120% @ 85-115%)

8100M Total Petroleum HydrocarbonsCF12918-MSD1 Matrix Spike recovery is above upper control limit (M+).

Total Petroleum Hydrocarbons (191% @ 40-140%)

8270C Semi-Volatile Organic CompoundsCUF0168-CCV1 DDT breakdown > 20%CUF0168-CCV1 Initial Calibration Verification recovery is outside of control limit (ICV).

Isophorone , Pentachlorophenol

CUF0168-CCV1 Pentachlorophenol tailing factor > 2.

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

[Definitions of Quality Control Parameters](#)[Semivolatile Organics Internal Standard Information](#)[Semivolatile Organics Surrogate Information](#)[Volatile Organics Internal Standard Information](#)[Volatile Organics Surrogate Information](#)[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SP 3/4 Loam 1
Date Sampled: 06/24/11 09:00
Percent Solids: 91

ESS Laboratory Work Order: 1106301
ESS Laboratory Sample ID: 1106301-01
Sample Matrix: Soil
Units: mg/kg dry

3050B/6000/7000 Total Metals

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (5.1)	6010B	10	1	SVD	06/28/11 16:41	2.14	100	CF12709
Arsenic	ND (2.6)	6010B	7	1	SVD	06/28/11 16:41	2.14	100	CF12709
Barium	21.8 (2.6)	6010B	5500	1	SVD	06/28/11 16:41	2.14	100	CF12709
Beryllium	0.33 (0.11)	6010B	0.4	1	SVD	06/28/11 16:41	2.14	100	CF12709
Cadmium	ND (0.52)	6010B	39	1	SVD	06/28/11 16:41	2.14	100	CF12709
Chromium	6.6 (1.0)	6010B	1400	1	SVD	06/28/11 16:41	2.14	100	CF12709
Copper	9.7 (2.6)	6010B	3100	1	SVD	06/28/11 16:41	2.14	100	CF12709
Lead	20.3 (5.1)	6010B	150	1	SVD	06/28/11 16:41	2.14	100	CF12709
Mercury	ND (0.031)	7471A	23	1	JP	06/27/11 18:14	0.7	40	CF12711
Nickel	4.1 (2.6)	6010B	1000	1	SVD	06/28/11 16:41	2.14	100	CF12709
Selenium	ND (5.1)	6010B	390	1	SVD	06/28/11 16:41	2.14	100	CF12709
Silver	ND (0.52)	6010B	200	1	SVD	06/28/11 16:41	2.14	100	CF12709
Thallium	ND (1.27)	7841	5.5	5	SVD	06/29/11 16:24	2.14	100	CF12709
Zinc	24.8 (2.6)	6010B	6000	1	SVD	06/28/11 16:41	2.14	100	CF12709



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SP 3/4 Loam 1
Date Sampled: 06/24/11 09:00
Percent Solids: 91
Initial Volume: 5.5
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1106301
ESS Laboratory Sample ID: 1106301-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Low Level

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0050)	2.2	1	06/27/11 12:57	CUF0161	CF12704
1,1,1-Trichloroethane	ND (0.0050)	540	1	06/27/11 12:57	CUF0161	CF12704
1,1,2,2-Tetrachloroethane	ND (0.0050)	1.3	1	06/27/11 12:57	CUF0161	CF12704
1,1,2-Trichloroethane	ND (0.0050)	3.6	1	06/27/11 12:57	CUF0161	CF12704
1,1-Dichloroethane	ND (0.0050)	920	1	06/27/11 12:57	CUF0161	CF12704
1,1-Dichloroethene	ND (0.0050)	0.2	1	06/27/11 12:57	CUF0161	CF12704
1,1-Dichloropropene	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
1,2,3-Trichlorobenzene	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
1,2,3-Trichloropropane	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
1,2,4-Trichlorobenzene	ND (0.0050)	96	1	06/27/11 12:57	CUF0161	CF12704
1,2,4-Trimethylbenzene	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
1,2-Dibromo-3-Chloropropane	ND (0.0050)	0.5	1	06/27/11 12:57	CUF0161	CF12704
1,2-Dibromoethane	ND (0.0050)	0.01	1	06/27/11 12:57	CUF0161	CF12704
1,2-Dichlorobenzene	ND (0.0050)	510	1	06/27/11 12:57	CUF0161	CF12704
1,2-Dichloroethane	ND (0.0050)	0.9	1	06/27/11 12:57	CUF0161	CF12704
1,2-Dichloropropane	ND (0.0050)	1.9	1	06/27/11 12:57	CUF0161	CF12704
1,3,5-Trimethylbenzene	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
1,3-Dichlorobenzene	ND (0.0050)	430	1	06/27/11 12:57	CUF0161	CF12704
1,3-Dichloropropane	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
1,4-Dichlorobenzene	ND (0.0050)	27	1	06/27/11 12:57	CUF0161	CF12704
1,4-Dioxane	ND (0.0999)		1	06/27/11 12:57	CUF0161	CF12704
1-Chlorohexane	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
2,2-Dichloropropane	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
2-Butanone	ND (0.0500)	10000	1	06/27/11 12:57	CUF0161	CF12704
2-Chlorotoluene	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
2-Hexanone	ND (0.0500)		1	06/27/11 12:57	CUF0161	CF12704
4-Chlorotoluene	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
4-Isopropyltoluene	0.0062 (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
4-Methyl-2-Pentanone	ND (0.0500)	1200	1	06/27/11 12:57	CUF0161	CF12704
Acetone	ND (0.0500)	7800	1	06/27/11 12:57	CUF0161	CF12704
Benzene	ND (0.0050)	2.5	1	06/27/11 12:57	CUF0161	CF12704



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SP 3/4 Loam 1
Date Sampled: 06/24/11 09:00
Percent Solids: 91
Initial Volume: 5.5
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1106301
ESS Laboratory Sample ID: 1106301-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Low Level

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromobenzene	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
Bromochloromethane	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
Bromodichloromethane	ND (0.0050)	10	1	06/27/11 12:57	CUF0161	CF12704
Bromoform	ND (0.0050)	81	1	06/27/11 12:57	CUF0161	CF12704
Bromomethane	ND (0.0100)	0.8	1	06/27/11 12:57	CUF0161	CF12704
Carbon Disulfide	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
Carbon Tetrachloride	ND (0.0050)	1.5	1	06/27/11 12:57	CUF0161	CF12704
Chlorobenzene	ND (0.0050)	210	1	06/27/11 12:57	CUF0161	CF12704
Chloroethane	ND (0.0100)		1	06/27/11 12:57	CUF0161	CF12704
Chloroform	ND (0.0050)	1.2	1	06/27/11 12:57	CUF0161	CF12704
Chloromethane	ND (0.0100)		1	06/27/11 12:57	CUF0161	CF12704
cis-1,2-Dichloroethene	ND (0.0050)	630	1	06/27/11 12:57	CUF0161	CF12704
cis-1,3-Dichloropropene	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
Dibromochloromethane	ND (0.0050)	7.6	1	06/27/11 12:57	CUF0161	CF12704
Dibromomethane	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
Dichlorodifluoromethane	ND (0.0100)		1	06/27/11 12:57	CUF0161	CF12704
Diethyl Ether	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
Di-isopropyl ether	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
Ethyl tertiary-butyl ether	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
Ethylbenzene	ND (0.0050)	71	1	06/27/11 12:57	CUF0161	CF12704
Hexachlorobutadiene	ND (0.0050)	8.2	1	06/27/11 12:57	CUF0161	CF12704
Isopropylbenzene	ND (0.0050)	27	1	06/27/11 12:57	CUF0161	CF12704
Methyl tert-Butyl Ether	ND (0.0050)	390	1	06/27/11 12:57	CUF0161	CF12704
Methylene Chloride	ND (0.0250)	45	1	06/27/11 12:57	CUF0161	CF12704
Naphthalene	ND (0.0050)	54	1	06/27/11 12:57	CUF0161	CF12704
n-Butylbenzene	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
n-Propylbenzene	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
sec-Butylbenzene	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
Styrene	ND (0.0050)	13	1	06/27/11 12:57	CUF0161	CF12704
tert-Butylbenzene	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
Tertiary-amyl methyl ether	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SP 3/4 Loam 1
Date Sampled: 06/24/11 09:00
Percent Solids: 91
Initial Volume: 5.5
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1106301
ESS Laboratory Sample ID: 1106301-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MD

5035/8260B Volatile Organic Compounds / Low Level

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Tetrachloroethene	ND (0.0050)	12	1	06/27/11 12:57	CUF0161	CF12704
Tetrahydrofuran	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
Toluene	ND (0.0050)	190	1	06/27/11 12:57	CUF0161	CF12704
trans-1,2-Dichloroethene	ND (0.0050)	1100	1	06/27/11 12:57	CUF0161	CF12704
trans-1,3-Dichloropropene	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
Trichloroethene	ND (0.0050)	13	1	06/27/11 12:57	CUF0161	CF12704
Trichlorofluoromethane	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
Vinyl Acetate	ND (0.0050)		1	06/27/11 12:57	CUF0161	CF12704
Vinyl Chloride	ND (0.0100)	0.02	1	06/27/11 12:57	CUF0161	CF12704
Xylene O	ND (0.0050)	110	1	06/27/11 12:57	CUF0161	CF12704
Xylene P,M	ND (0.0100)	110	1	06/27/11 12:57	CUF0161	CF12704
Xylenes (Total)	ND (0.0150)	110	1	06/27/11 12:57		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	129 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	89 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	119 %		70-130
<i>Surrogate: Toluene-d8</i>	110 %		70-130



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SP 3/4 Loam 1
Date Sampled: 06/24/11 09:00
Percent Solids: 91
Initial Volume: 20.9
Final Volume: 5
Extraction Method: 3546

ESS Laboratory Work Order: 1106301
ESS Laboratory Sample ID: 1106301-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 6/27/11 16:00

8081A Organochlorine Pesticides

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
4,4'-DDD	ND (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
4,4'-DDE	0.0065 (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
4,4'-DDT [2C]	0.0061 (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
Aldrin	ND (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
alpha-BHC	ND (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
alpha-Chlordane [2C]	P 0.0053 (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
beta-BHC	ND (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
Chlordane (Total)	0.0412 (0.0315)	0.5	1	06/28/11 15:56	CUF0170	CF12723
delta-BHC	ND (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
Dieldrin	ND (0.0026)	0.04	1	06/28/11 15:56	CUF0170	CF12723
Endosulfan I	ND (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
Endosulfan II	ND (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
Endosulfan Sulfate	ND (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
Endrin	ND (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
Endrin Aldehyde	ND (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
Endrin Ketone	ND (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
gamma-BHC (Lindane)	ND (0.0016)		1	06/28/11 15:56	CUF0170	CF12723
gamma-Chlordane [2C]	0.0044 (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
Heptachlor	ND (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
Heptachlor Epoxide	ND (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
Hexachlorobenzene	ND (0.0026)	0.4	1	06/28/11 15:56	CUF0170	CF12723
Methoxychlor	ND (0.0026)		1	06/28/11 15:56	CUF0170	CF12723
Toxaphene	ND (0.131)		1	06/28/11 15:56	CUF0170	CF12723

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
Surrogate: Decachlorobiphenyl	85 %		30-150
Surrogate: Decachlorobiphenyl [2C]	79 %		30-150
Surrogate: Tetrachloro-m-xylene	69 %		30-150
Surrogate: Tetrachloro-m-xylene [2C]	79 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SP 3/4 Loam 1
Date Sampled: 06/24/11 09:00
Percent Solids: 91
Initial Volume: 20.5
Final Volume: 10
Extraction Method: 3540

ESS Laboratory Work Order: 1106301
ESS Laboratory Sample ID: 1106301-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/24/11 18:00

8082 Polychlorinated Biphenyls (PCB)

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aroclor 1016	ND (0.0536)	10	1	06/28/11 7:02		CF12424
Aroclor 1221	ND (0.0536)	10	1	06/28/11 7:02		CF12424
Aroclor 1232	ND (0.0536)	10	1	06/28/11 7:02		CF12424
Aroclor 1242	ND (0.0536)	10	1	06/28/11 7:02		CF12424
Aroclor 1248	ND (0.0536)	10	1	06/28/11 7:02		CF12424
Aroclor 1254	ND (0.0536)	10	1	06/28/11 7:02		CF12424
Aroclor 1260	ND (0.0536)	10	1	06/28/11 7:02		CF12424
Aroclor 1262	ND (0.0536)	10	1	06/28/11 7:02		CF12424
Aroclor 1268	ND (0.0536)	10	1	06/28/11 7:02		CF12424

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: Decachlorobiphenyl</i>	87 %		30-150
<i>Surrogate: Decachlorobiphenyl [2C]</i>	92 %		30-150
<i>Surrogate: Tetrachloro-m-xylene</i>	87 %		30-150
<i>Surrogate: Tetrachloro-m-xylene [2C]</i>	89 %		30-150



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SP 3/4 Loam 1
Date Sampled: 06/24/11 09:00
Percent Solids: 91
Initial Volume: 20.4
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1106301
ESS Laboratory Sample ID: 1106301-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ML
Prepared: 6/29/11 16:00

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	RI - RES DEC			<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
		<u>Limit</u>	<u>DF</u>				
Total Petroleum Hydrocarbons	75.4 (40.4)	500	1		06/30/11 13:32	CUF0200	CF12918
<hr/>							
	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
Surrogate: O-Terphenyl	110 %		40-140				



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SP 3/4 Loam 1
Date Sampled: 06/24/11 09:00
Percent Solids: 91
Initial Volume: 15.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1106301
ESS Laboratory Sample ID: 1106301-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/27/11 16:00

8270C Semi-Volatile Organic Compounds

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.350)	0.8	1	06/27/11 19:22	CUF0168	CF12724
1,2,4-Trichlorobenzene	ND (0.350)	96	1	06/27/11 19:22	CUF0168	CF12724
1,2-Dichlorobenzene	ND (0.350)	510	1	06/27/11 19:22	CUF0168	CF12724
1,3-Dichlorobenzene	ND (0.350)	430	1	06/27/11 19:22	CUF0168	CF12724
1,4-Dichlorobenzene	ND (0.350)	27	1	06/27/11 19:22	CUF0168	CF12724
2,3,4,6-Tetrachlorophenol	ND (1.75)		1	06/27/11 19:22	CUF0168	CF12724
2,4,5-Trichlorophenol	ND (0.350)	330	1	06/27/11 19:22	CUF0168	CF12724
2,4,6-Trichlorophenol	ND (0.350)	58	1	06/27/11 19:22	CUF0168	CF12724
2,4-Dichlorophenol	ND (0.350)	30	1	06/27/11 19:22	CUF0168	CF12724
2,4-Dimethylphenol	ND (0.350)	1400	1	06/27/11 19:22	CUF0168	CF12724
2,4-Dinitrophenol	ND (1.75)	160	1	06/27/11 19:22	CUF0168	CF12724
2,4-Dinitrotoluene	ND (0.350)	0.9	1	06/27/11 19:22	CUF0168	CF12724
2,6-Dinitrotoluene	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
2-Chloronaphthalene	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
2-Chlorophenol	ND (0.350)	50	1	06/27/11 19:22	CUF0168	CF12724
2-Methylnaphthalene	ND (0.350)	123	1	06/27/11 19:22	CUF0168	CF12724
2-Methylphenol	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
2-Nitroaniline	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
2-Nitrophenol	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
3,3'-Dichlorobenzidine	ND (0.700)	1.4	1	06/27/11 19:22	CUF0168	CF12724
3+4-Methylphenol	ND (0.700)		1	06/27/11 19:22	CUF0168	CF12724
3-Nitroaniline	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
4,6-Dinitro-2-Methylphenol	ND (1.75)		1	06/27/11 19:22	CUF0168	CF12724
4-Bromophenyl-phenylether	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
4-Chloro-3-Methylphenol	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
4-Chloroaniline	ND (0.700)	310	1	06/27/11 19:22	CUF0168	CF12724
4-Chloro-phenyl-phenyl ether	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
4-Nitroaniline	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
4-Nitrophenol	ND (1.75)		1	06/27/11 19:22	CUF0168	CF12724
Acenaphthene	ND (0.350)	43	1	06/27/11 19:22	CUF0168	CF12724
Acenaphthylene	ND (0.350)	23	1	06/27/11 19:22	CUF0168	CF12724



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SP 3/4 Loam 1
Date Sampled: 06/24/11 09:00
Percent Solids: 91
Initial Volume: 15.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1106301
ESS Laboratory Sample ID: 1106301-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/27/11 16:00

8270C Semi-Volatile Organic Compounds

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Acetophenone	ND (0.700)		1	06/27/11 19:22	CUF0168	CF12724
Aniline	ND (0.700)		1	06/27/11 19:22	CUF0168	CF12724
Anthracene	ND (0.350)	35	1	06/27/11 19:22	CUF0168	CF12724
Azobenzene	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
Benzo(a)anthracene	ND (0.350)	0.9	1	06/27/11 19:22	CUF0168	CF12724
Benzo(a)pyrene	0.303 (0.175)	0.4	1	06/27/11 19:22	CUF0168	CF12724
Benzo(b)fluoranthene	0.413 (0.350)	0.9	1	06/27/11 19:22	CUF0168	CF12724
Benzo(g,h,i)perylene	ND (0.350)	0.8	1	06/27/11 19:22	CUF0168	CF12724
Benzo(k)fluoranthene	ND (0.350)	0.9	1	06/27/11 19:22	CUF0168	CF12724
Benzoic Acid	ND (1.75)		1	06/27/11 19:22	CUF0168	CF12724
Benzyl Alcohol	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
bis(2-Chloroethoxy)methane	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
bis(2-Chloroethyl)ether	ND (0.350)	0.6	1	06/27/11 19:22	CUF0168	CF12724
bis(2-chloroisopropyl)Ether	ND (0.350)	9.1	1	06/27/11 19:22	CUF0168	CF12724
bis(2-Ethylhexyl)phthalate	ND (0.350)	46	1	06/27/11 19:22	CUF0168	CF12724
Butylbenzylphthalate	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
Carbazole	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
Chrysene	0.344 (0.175)	0.4	1	06/27/11 19:22	CUF0168	CF12724
Dibenzo(a,h)Anthracene	ND (0.175)	0.4	1	06/27/11 19:22	CUF0168	CF12724
Dibenzofuran	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
Diethylphthalate	ND (0.350)	340	1	06/27/11 19:22	CUF0168	CF12724
Dimethylphthalate	ND (0.350)	1900	1	06/27/11 19:22	CUF0168	CF12724
Di-n-butylphthalate	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
Di-n-octylphthalate	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
Fluoranthene	0.701 (0.350)	20	1	06/27/11 19:22	CUF0168	CF12724
Fluorene	ND (0.350)	28	1	06/27/11 19:22	CUF0168	CF12724
Hexachlorobenzene	ND (0.175)	0.4	1	06/27/11 19:22	CUF0168	CF12724
Hexachlorobutadiene	ND (0.350)	8.2	1	06/27/11 19:22	CUF0168	CF12724
Hexachlorocyclopentadiene	ND (1.75)		1	06/27/11 19:22	CUF0168	CF12724
Hexachloroethane	ND (0.350)	46	1	06/27/11 19:22	CUF0168	CF12724
Indeno(1,2,3-cd)Pyrene	ND (0.350)	0.9	1	06/27/11 19:22	CUF0168	CF12724



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SP 3/4 Loam 1
Date Sampled: 06/24/11 09:00
Percent Solids: 91
Initial Volume: 15.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1106301
ESS Laboratory Sample ID: 1106301-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 6/27/11 16:00

8270C Semi-Volatile Organic Compounds

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Isophorone	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
Naphthalene	ND (0.350)	54	1	06/27/11 19:22	CUF0168	CF12724
Nitrobenzene	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
N-Nitrosodimethylamine	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
N-Nitroso-Di-n-Propylamine	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
N-nitrosodiphenylamine	ND (0.350)		1	06/27/11 19:22	CUF0168	CF12724
Pentachlorophenol	ND (1.75)	5.3	1	06/27/11 19:22	CUF0168	CF12724
Phenanthrene	0.410 (0.350)	40	1	06/27/11 19:22	CUF0168	CF12724
Phenol	ND (0.350)	6000	1	06/27/11 19:22	CUF0168	CF12724
Pyrene	0.561 (0.350)	13	1	06/27/11 19:22	CUF0168	CF12724
Pyridine	ND (1.75)		1	06/27/11 19:22	CUF0168	CF12724

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
Surrogate: 1,2-Dichlorobenzene-d4	75 %		30-130
Surrogate: 2,4,6-Tribromophenol	83 %		30-130
Surrogate: 2-Chlorophenol-d4	69 %		30-130
Surrogate: 2-Fluorobiphenyl	77 %		30-130
Surrogate: 2-Fluorophenol	67 %		30-130
Surrogate: Nitrobenzene-d5	77 %		30-130
Surrogate: Phenol-d6	69 %		30-130
Surrogate: p-Terphenyl-d14	78 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston
Client Sample ID: SP 3/4 Loam 1
Date Sampled: 06/24/11 09:00
Percent Solids: 91

ESS Laboratory Work Order: 1106301
ESS Laboratory Sample ID: 1106301-01
Sample Matrix: Soil

Classical Chemistry

RI - RES DEC

<u>Analyte</u>	<u>Results (MRL)</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Total Cyanide	ND (1.09)	9014	200	1	EEM	06/30/11 10:50	mg/kg dry	CF13005



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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3050B/6000/7000 Total Metals

Batch CF12709 - 3050B

Blank

Antimony	ND	5.0	mg/kg wet
Arsenic	ND	2.5	mg/kg wet
Barium	ND	2.5	mg/kg wet
Beryllium	ND	0.10	mg/kg wet
Cadmium	ND	0.50	mg/kg wet
Chromium	ND	1.0	mg/kg wet
Copper	ND	2.5	mg/kg wet
Lead	ND	5.0	mg/kg wet
Nickel	ND	2.5	mg/kg wet
Selenium	ND	5.0	mg/kg wet
Silver	ND	0.50	mg/kg wet
Thallium	ND	0.25	mg/kg wet
Zinc	ND	2.5	mg/kg wet

LCS

Antimony	109	18.5	mg/kg wet	120.0	91	80-120
Arsenic	113	9.2	mg/kg wet	124.0	91	80-120
Barium	296	9.2	mg/kg wet	316.0	94	80-120
Beryllium	85.8	0.39	mg/kg wet	95.00	90	80-120
Cadmium	104	1.86	mg/kg wet	116.0	89	80-120
Chromium	88.3	3.7	mg/kg wet	95.90	92	80-120
Copper	77.4	9.2	mg/kg wet	82.80	94	80-120
Lead	128	18.5	mg/kg wet	137.0	93	80-120
Nickel	113	9.2	mg/kg wet	121.0	93	80-120
Selenium	189	18.5	mg/kg wet	202.0	93	80-120
Silver	49.4	1.86	mg/kg wet	53.50	92	80-120
Thallium	209	91.7	mg/kg wet	231.0	91	80-120
Zinc	240	9.2	mg/kg wet	275.0	87	80-120

LCS Dup

Antimony	114	18.5	mg/kg wet	120.0	95	80-120	5	20
Arsenic	113	9.2	mg/kg wet	124.0	91	80-120	0.5	20
Barium	289	9.2	mg/kg wet	316.0	92	80-120	2	20
Beryllium	86.0	0.39	mg/kg wet	95.00	91	80-120	0.3	20
Cadmium	103	1.86	mg/kg wet	116.0	89	80-120	1	20
Chromium	87.0	3.7	mg/kg wet	95.90	91	80-120	2	20
Copper	77.5	9.2	mg/kg wet	82.80	94	80-120	0.06	20
Lead	127	18.5	mg/kg wet	137.0	92	80-120	0.9	20
Nickel	111	9.2	mg/kg wet	121.0	91	80-120	2	20
Selenium	190	18.5	mg/kg wet	202.0	94	80-120	0.6	20
Silver	48.3	1.86	mg/kg wet	53.50	90	80-120	2	20
Thallium	205	91.7	mg/kg wet	231.0	89	80-120	2	20
Zinc	236	9.2	mg/kg wet	275.0	86	80-120	2	20

Batch CF12711 - 7471A

Blank



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
3050B/6000/7000 Total Metals										
Batch CF12711 - 7471A										
Mercury	ND	0.033	mg/kg wet							
LCS										
Mercury	14.3	1.46	mg/kg wet	15.20		94	80-120			
LCS Dup										
Mercury	14.3	1.55	mg/kg wet	15.20		94	80-120	0.2	20	
Duplicate Source: 1106301-01										
Mercury	0.0164	0.035	mg/kg dry		0.0217			28	35	
Matrix Spike Source: 1106301-01										
Mercury	0.215	0.033	mg/kg dry	0.1998	0.0217	97	75-125			
Matrix Spike Dup Source: 1106301-01										
Mercury	0.230	0.031	mg/kg dry	0.1884	0.0217	111	75-125	7	35	

5035/8260B Volatile Organic Compounds / Low Level

Batch CF12704 - 5035

Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
1-Chlorohexane	ND	0.0050	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0500	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0500	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet							



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CF12704 - 5035

Acetone	ND	0.0500	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0050	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0250	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Vinyl Acetate	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0617		mg/kg wet	0.05000		123	70-130			
Surrogate: 4-Bromofluorobenzene	0.0483		mg/kg wet	0.05000		97	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CF12704 - 5035

Surrogate: Dibromofluoromethane	0.0591		mg/kg wet	0.05000		118	70-130			
Surrogate: Toluene-d8	0.0512		mg/kg wet	0.05000		102	70-130			

LCS

1,1,1,2-Tetrachloroethane	0.0522	0.0050	mg/kg wet	0.05000		104	70-130			
1,1,1-Trichloroethane	0.0537	0.0050	mg/kg wet	0.05000		107	70-130			
1,1,2,2-Tetrachloroethane	0.0571	0.0050	mg/kg wet	0.05000		114	70-130			
1,1,2-Trichloroethane	0.0545	0.0050	mg/kg wet	0.05000		109	70-130			
1,1-Dichloroethane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
1,1-Dichloroethene	0.0528	0.0050	mg/kg wet	0.05000		106	70-130			
1,1-Dichloropropene	0.0527	0.0050	mg/kg wet	0.05000		105	70-130			
1,2,3-Trichlorobenzene	0.0545	0.0050	mg/kg wet	0.05000		109	70-130			
1,2,3-Trichloropropane	0.0556	0.0050	mg/kg wet	0.05000		111	70-130			
1,2,4-Trichlorobenzene	0.0532	0.0050	mg/kg wet	0.05000		106	70-130			
1,2,4-Trimethylbenzene	0.0540	0.0050	mg/kg wet	0.05000		108	70-130			
1,2-Dibromo-3-Chloropropane	0.0586	0.0050	mg/kg wet	0.05000		117	70-130			
1,2-Dibromoethane	0.0568	0.0050	mg/kg wet	0.05000		114	70-130			
1,2-Dichlorobenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130			
1,2-Dichloroethane	0.0549	0.0050	mg/kg wet	0.05000		110	70-130			
1,2-Dichloropropane	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
1,3,5-Trimethylbenzene	0.0550	0.0050	mg/kg wet	0.05000		110	70-130			
1,3-Dichlorobenzene	0.0538	0.0050	mg/kg wet	0.05000		108	70-130			
1,3-Dichloropropane	0.0574	0.0050	mg/kg wet	0.05000		115	70-130			
1,4-Dichlorobenzene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
1,4-Dioxane	1.14	0.100	mg/kg wet	1.000		114	70-130			
1-Chlorohexane	0.0567	0.0050	mg/kg wet	0.05000		113	70-130			
2,2-Dichloropropane	0.0581	0.0050	mg/kg wet	0.05000		116	70-130			
2-Butanone	0.299	0.0500	mg/kg wet	0.2500		120	70-130			
2-Chlorotoluene	0.0528	0.0050	mg/kg wet	0.05000		106	70-130			
2-Hexanone	0.302	0.0500	mg/kg wet	0.2500		121	70-130			
4-Chlorotoluene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
4-Isopropyltoluene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
4-Methyl-2-Pentanone	0.302	0.0500	mg/kg wet	0.2500		121	70-130			
Acetone	0.260	0.0500	mg/kg wet	0.2500		104	70-130			
Benzene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130			
Bromobenzene	0.0538	0.0050	mg/kg wet	0.05000		108	70-130			
Bromochloromethane	0.0540	0.0050	mg/kg wet	0.05000		108	70-130			
Bromodichloromethane	0.0546	0.0050	mg/kg wet	0.05000		109	70-130			
Bromoform	0.0612	0.0050	mg/kg wet	0.05000		122	70-130			
Bromomethane	0.0539	0.0100	mg/kg wet	0.05000		108	70-130			
Carbon Disulfide	0.0544	0.0050	mg/kg wet	0.05000		109	70-130			
Carbon Tetrachloride	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
Chlorobenzene	0.0533	0.0050	mg/kg wet	0.05000		107	70-130			
Chloroethane	0.0547	0.0100	mg/kg wet	0.05000		109	70-130			
Chloroform	0.0513	0.0050	mg/kg wet	0.05000		103	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CF12704 - 5035

Chloromethane	0.0548	0.0100	mg/kg wet	0.05000		110	70-130			
cis-1,2-Dichloroethene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130			
cis-1,3-Dichloropropene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
Dibromochloromethane	0.0590	0.0050	mg/kg wet	0.05000		118	70-130			
Dibromomethane	0.0524	0.0050	mg/kg wet	0.05000		105	70-130			
Dichlorodifluoromethane	0.0580	0.0100	mg/kg wet	0.05000		116	70-130			
Diethyl Ether	0.0363	0.0050	mg/kg wet	0.05000		73	70-130			
Di-isopropyl ether	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
Ethyl tertiary-butyl ether	0.0541	0.0050	mg/kg wet	0.05000		108	70-130			
Ethylbenzene	0.0551	0.0050	mg/kg wet	0.05000		110	70-130			
Hexachlorobutadiene	0.0536	0.0050	mg/kg wet	0.05000		107	70-130			
Isopropylbenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
Methyl tert-Butyl Ether	0.0567	0.0050	mg/kg wet	0.05000		113	70-130			
Methylene Chloride	0.0530	0.0250	mg/kg wet	0.05000		106	70-130			
Naphthalene	0.0629	0.0050	mg/kg wet	0.05000		126	70-130			
n-Butylbenzene	0.0535	0.0050	mg/kg wet	0.05000		107	70-130			
n-Propylbenzene	0.0553	0.0050	mg/kg wet	0.05000		111	70-130			
sec-Butylbenzene	0.0543	0.0050	mg/kg wet	0.05000		109	70-130			
Styrene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
tert-Butylbenzene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130			
Tertiary-amyl methyl ether	0.0545	0.0050	mg/kg wet	0.05000		109	70-130			
Tetrachloroethene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130			
Tetrahydrofuran	0.0571	0.0050	mg/kg wet	0.05000		114	70-130			
Toluene	0.0550	0.0050	mg/kg wet	0.05000		110	70-130			
trans-1,2-Dichloroethene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
trans-1,3-Dichloropropene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
Trichloroethene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
Vinyl Acetate	0.0602	0.0050	mg/kg wet				70-130			
Vinyl Chloride	0.0634	0.0100	mg/kg wet	0.05000		127	70-130			
Xylene O	0.0552	0.0050	mg/kg wet	0.05000		110	70-130			
Xylene P,M	0.111	0.0100	mg/kg wet	0.1000		111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0530		mg/kg wet	0.05000		106	70-130			
Surrogate: 4-Bromofluorobenzene	0.0529		mg/kg wet	0.05000		106	70-130			
Surrogate: Dibromofluoromethane	0.0500		mg/kg wet	0.05000		100	70-130			
Surrogate: Toluene-d8	0.0506		mg/kg wet	0.05000		101	70-130			

LCS Dup

1,1,1,2-Tetrachloroethane	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	6	25	
1,1,1-Trichloroethane	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	7	25	
1,1,2,2-Tetrachloroethane	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	8	25	
1,1,2-Trichloroethane	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	10	25	
1,1-Dichloroethane	0.0469	0.0050	mg/kg wet	0.05000		94	70-130	4	25	
1,1-Dichloroethene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	5	25	
1,1-Dichloropropene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	4	25	
1,2,3-Trichlorobenzene	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	4	25	
1,2,3-Trichloropropane	0.0559	0.0050	mg/kg wet	0.05000		112	70-130	0.5	25	



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CF12704 - 5035										
1,2,4-Trichlorobenzene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	4	25	
1,2,4-Trimethylbenzene	0.0553	0.0050	mg/kg wet	0.05000		111	70-130	2	25	
1,2-Dibromo-3-Chloropropane	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	11	25	
1,2-Dibromoethane	0.0532	0.0050	mg/kg wet	0.05000		106	70-130	6	25	
1,2-Dichlorobenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	1	25	
1,2-Dichloroethane	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	8	25	
1,2-Dichloropropane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	4	25	
1,3,5-Trimethylbenzene	0.0554	0.0050	mg/kg wet	0.05000		111	70-130	0.8	25	
1,3-Dichlorobenzene	0.0521	0.0050	mg/kg wet	0.05000		104	70-130	3	25	
1,3-Dichloropropane	0.0518	0.0050	mg/kg wet	0.05000		104	70-130	10	25	
1,4-Dichlorobenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	0.1	25	
1,4-Dioxane	0.997	0.100	mg/kg wet	1.000		100	70-130	13	20	
1-Chlorohexane	0.0570	0.0050	mg/kg wet	0.05000		114	70-130	0.6	25	
2,2-Dichloropropane	0.0537	0.0050	mg/kg wet	0.05000		107	70-130	8	25	
2-Butanone	0.259	0.0500	mg/kg wet	0.2500		104	70-130	14	25	
2-Chlorotoluene	0.0532	0.0050	mg/kg wet	0.05000		106	70-130	0.8	25	
2-Hexanone	0.246	0.0500	mg/kg wet	0.2500		99	70-130	20	25	
4-Chlorotoluene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130	0.7	25	
4-Isopropyltoluene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	0.8	25	
4-Methyl-2-Pentanone	0.257	0.0500	mg/kg wet	0.2500		103	70-130	16	25	
Acetone	0.199	0.0500	mg/kg wet	0.2500		80	70-130	27	25	D+
Benzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	5	25	
Bromobenzene	0.0528	0.0050	mg/kg wet	0.05000		106	70-130	2	25	
Bromochloromethane	0.0494	0.0050	mg/kg wet	0.05000		99	70-130	9	25	
Bromodichloromethane	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	6	25	
Bromoform	0.0539	0.0050	mg/kg wet	0.05000		108	70-130	13	25	
Bromomethane	0.0542	0.0100	mg/kg wet	0.05000		108	70-130	0.6	25	
Carbon Disulfide	0.0532	0.0050	mg/kg wet	0.05000		106	70-130	2	25	
Carbon Tetrachloride	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	4	25	
Chlorobenzene	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	3	25	
Chloroethane	0.0517	0.0100	mg/kg wet	0.05000		103	70-130	6	25	
Chloroform	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	5	25	
Chloromethane	0.0551	0.0100	mg/kg wet	0.05000		110	70-130	0.7	25	
cis-1,2-Dichloroethene	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	0.9	25	
cis-1,3-Dichloropropene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	2	25	
Dibromochloromethane	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	10	25	
Dibromomethane	0.0484	0.0050	mg/kg wet	0.05000		97	70-130	8	25	
Dichlorodifluoromethane	0.0549	0.0100	mg/kg wet	0.05000		110	70-130	5	25	
Diethyl Ether	0.0347	0.0050	mg/kg wet	0.05000		69	70-130	4	25	B-
Di-isopropyl ether	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	5	25	
Ethyl tertiary-butyl ether	0.0494	0.0050	mg/kg wet	0.05000		99	70-130	9	25	
Ethylbenzene	0.0536	0.0050	mg/kg wet	0.05000		107	70-130	3	25	
Hexachlorobutadiene	0.0518	0.0050	mg/kg wet	0.05000		104	70-130	3	25	
Isopropylbenzene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	0.8	25	
Methyl tert-Butyl Ether	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	12	25	



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CF12704 - 5035

Methylene Chloride	0.0498	0.0250	mg/kg wet	0.05000		100	70-130	6	25	
Naphthalene	0.0581	0.0050	mg/kg wet	0.05000		116	70-130	8	25	
n-Butylbenzene	0.0544	0.0050	mg/kg wet	0.05000		109	70-130	2	25	
n-Propylbenzene	0.0554	0.0050	mg/kg wet	0.05000		111	70-130	0.2	25	
sec-Butylbenzene	0.0551	0.0050	mg/kg wet	0.05000		110	70-130	1	25	
Styrene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	0.9	25	
tert-Butylbenzene	0.0532	0.0050	mg/kg wet	0.05000		106	70-130	0.5	25	
Tertiary-amyl methyl ether	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	10	25	
Tetrachloroethene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	1	25	
Tetrahydrofuran	0.0530	0.0050	mg/kg wet	0.05000		106	70-130	7	25	
Toluene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130	4	25	
trans-1,2-Dichloroethene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	7	25	
trans-1,3-Dichloropropene	0.0423	0.0050	mg/kg wet	0.05000		85	70-130	8	25	
Trichloroethene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	5	25	
Vinyl Acetate	0.0537	0.0050	mg/kg wet				70-130		25	
Vinyl Chloride	0.0617	0.0100	mg/kg wet	0.05000		123	70-130	3	25	
Xylene O	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	5	25	
Xylene P,M	0.107	0.0100	mg/kg wet	0.1000		107	70-130	3	25	
Surrogate: 1,2-Dichloroethane-d4	0.0480		mg/kg wet	0.05000		96	70-130			
Surrogate: 4-Bromofluorobenzene	0.0505		mg/kg wet	0.05000		101	70-130			
Surrogate: Dibromofluoromethane	0.0482		mg/kg wet	0.05000		96	70-130			
Surrogate: Toluene-d8	0.0505		mg/kg wet	0.05000		101	70-130			

8081A Organochlorine Pesticides

Batch CF12723 - 3546

Blank

4,4'-DDD	ND	0.0025	mg/kg wet
4,4'-DDD [2C]	ND	0.0025	mg/kg wet
4,4'-DDE	ND	0.0025	mg/kg wet
4,4'-DDE [2C]	ND	0.0025	mg/kg wet
4,4'-DDT	ND	0.0025	mg/kg wet
4,4'-DDT [2C]	ND	0.0025	mg/kg wet
Aldrin	ND	0.0025	mg/kg wet
Aldrin [2C]	ND	0.0025	mg/kg wet
alpha-BHC	ND	0.0025	mg/kg wet
alpha-BHC [2C]	ND	0.0025	mg/kg wet
alpha-Chlordane	ND	0.0025	mg/kg wet
alpha-Chlordane [2C]	ND	0.0025	mg/kg wet
beta-BHC	ND	0.0025	mg/kg wet
beta-BHC [2C]	ND	0.0025	mg/kg wet
Chlordane (Total)	ND	0.0300	mg/kg wet
Chlordane (Total) [2C]	ND	0.0300	mg/kg wet
delta-BHC	ND	0.0025	mg/kg wet
delta-BHC [2C]	ND	0.0025	mg/kg wet
Dieldrin	ND	0.0025	mg/kg wet



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8081A Organochlorine Pesticides

Batch CF12723 - 3546

Dieldrin [2C]	ND	0.0025	mg/kg wet							
Endosulfan I	ND	0.0025	mg/kg wet							
Endosulfan I [2C]	ND	0.0025	mg/kg wet							
Endosulfan II	ND	0.0025	mg/kg wet							
Endosulfan II [2C]	ND	0.0025	mg/kg wet							
Endosulfan Sulfate	ND	0.0025	mg/kg wet							
Endosulfan Sulfate [2C]	ND	0.0025	mg/kg wet							
Endrin	ND	0.0025	mg/kg wet							
Endrin [2C]	ND	0.0025	mg/kg wet							
Endrin Aldehyde	ND	0.0025	mg/kg wet							
Endrin Aldehyde [2C]	ND	0.0025	mg/kg wet							
Endrin Ketone	ND	0.0025	mg/kg wet							
Endrin Ketone [2C]	ND	0.0025	mg/kg wet							
gamma-BHC (Lindane)	ND	0.0015	mg/kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0015	mg/kg wet							
gamma-Chlordane	ND	0.0025	mg/kg wet							
gamma-Chlordane [2C]	ND	0.0025	mg/kg wet							
Heptachlor	ND	0.0025	mg/kg wet							
Heptachlor [2C]	ND	0.0025	mg/kg wet							
Heptachlor Epoxide	ND	0.0025	mg/kg wet							
Heptachlor Epoxide [2C]	ND	0.0025	mg/kg wet							
Hexachlorobenzene	ND	0.0025	mg/kg wet							
Hexachlorobenzene [2C]	ND	0.0025	mg/kg wet							
Methoxychlor	ND	0.0025	mg/kg wet							
Methoxychlor [2C]	ND	0.0025	mg/kg wet							
Toxaphene	ND	0.125	mg/kg wet							
Toxaphene [2C]	ND	0.125	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0108		mg/kg wet	0.01250		87	30-150
Surrogate: Decachlorobiphenyl [2C]	0.0109		mg/kg wet	0.01250		87	30-150
Surrogate: Tetrachloro-m-xylene	0.00932		mg/kg wet	0.01250		75	30-150
Surrogate: Tetrachloro-m-xylene [2C]	0.0102		mg/kg wet	0.01250		81	30-150

LCS

4,4'-DDD	0.0139	0.0025	mg/kg wet	0.01250		111	40-140
4,4'-DDD [2C]	0.0135	0.0025	mg/kg wet	0.01250		108	40-140
4,4'-DDE	0.0147	0.0025	mg/kg wet	0.01250		118	40-140
4,4'-DDE [2C]	0.0134	0.0025	mg/kg wet	0.01250		107	40-140
4,4'-DDT	0.0136	0.0025	mg/kg wet	0.01250		109	40-140
4,4'-DDT [2C]	0.0136	0.0025	mg/kg wet	0.01250		108	40-140
Aldrin	0.0133	0.0025	mg/kg wet	0.01250		107	40-140
Aldrin [2C]	0.0132	0.0025	mg/kg wet	0.01250		106	40-140
alpha-BHC	0.0129	0.0025	mg/kg wet	0.01250		103	40-140
alpha-BHC [2C]	0.0132	0.0025	mg/kg wet	0.01250		106	40-140
alpha-Chlordane	0.0134	0.0025	mg/kg wet	0.01250		107	40-140
alpha-Chlordane [2C]	0.0134	0.0025	mg/kg wet	0.01250		107	40-140



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8081A Organochlorine Pesticides

Batch CF12723 - 3546

beta-BHC	0.0139	0.0025	mg/kg wet	0.01250		112	40-140			
beta-BHC [2C]	0.0141	0.0025	mg/kg wet	0.01250		113	40-140			
delta-BHC	0.0132	0.0025	mg/kg wet	0.01250		105	40-140			
delta-BHC [2C]	0.0134	0.0025	mg/kg wet	0.01250		107	40-140			
Dieldrin	0.0137	0.0025	mg/kg wet	0.01250		110	40-140			
Dieldrin [2C]	0.0136	0.0025	mg/kg wet	0.01250		108	40-140			
Endosulfan I	0.0125	0.0025	mg/kg wet	0.01250		100	40-140			
Endosulfan I [2C]	0.0133	0.0025	mg/kg wet	0.01250		106	40-140			
Endosulfan II	0.0137	0.0025	mg/kg wet	0.01250		110	40-140			
Endosulfan II [2C]	0.0136	0.0025	mg/kg wet	0.01250		109	40-140			
Endosulfan Sulfate	0.0137	0.0025	mg/kg wet	0.01250		110	40-140			
Endosulfan Sulfate [2C]	0.0139	0.0025	mg/kg wet	0.01250		111	40-140			
Endrin	0.0148	0.0025	mg/kg wet	0.01250		119	40-140			
Endrin [2C]	0.0147	0.0025	mg/kg wet	0.01250		118	40-140			
Endrin Aldehyde	0.0134	0.0025	mg/kg wet	0.01250		107	40-140			
Endrin Aldehyde [2C]	0.0137	0.0025	mg/kg wet	0.01250		110	40-140			
Endrin Ketone	0.0126	0.0025	mg/kg wet	0.01250		100	40-140			
Endrin Ketone [2C]	0.0126	0.0025	mg/kg wet	0.01250		101	40-140			
gamma-BHC (Lindane)	0.0134	0.0015	mg/kg wet	0.01250		107	40-140			
gamma-BHC (Lindane) [2C]	0.0135	0.0015	mg/kg wet	0.01250		108	40-140			
gamma-Chlordane	0.0132	0.0025	mg/kg wet	0.01250		106	40-140			
gamma-Chlordane [2C]	0.0133	0.0025	mg/kg wet	0.01250		106	40-140			
Heptachlor	0.0130	0.0025	mg/kg wet	0.01250		104	40-140			
Heptachlor [2C]	0.0131	0.0025	mg/kg wet	0.01250		105	40-140			
Heptachlor Epoxide	0.0134	0.0025	mg/kg wet	0.01250		107	40-140			
Heptachlor Epoxide [2C]	0.0133	0.0025	mg/kg wet	0.01250		107	40-140			
Hexachlorobenzene	0.0173	0.0025	mg/kg wet	0.01250		138	40-140			
Hexachlorobenzene [2C]	0.0175	0.0025	mg/kg wet	0.01250		140	40-140			
Methoxychlor	0.0132	0.0025	mg/kg wet	0.01250		105	40-140			
Methoxychlor [2C]	0.0141	0.0025	mg/kg wet	0.01250		113	40-140			

Surrogate: Decachlorobiphenyl	0.0116		mg/kg wet	0.01250		93	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0116		mg/kg wet	0.01250		93	30-150			
Surrogate: Tetrachloro-m-xylene	0.0121		mg/kg wet	0.01250		97	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0127		mg/kg wet	0.01250		101	30-150			

LCS Dup

4,4'-DDD	0.0128	0.0025	mg/kg wet	0.01250		102	40-140	8	30	
4,4'-DDD [2C]	0.0126	0.0025	mg/kg wet	0.01250		101	40-140	7	30	
4,4'-DDE	0.0131	0.0025	mg/kg wet	0.01250		105	40-140	12	30	
4,4'-DDE [2C]	0.0121	0.0025	mg/kg wet	0.01250		97	40-140	10	30	
4,4'-DDT	0.0127	0.0025	mg/kg wet	0.01250		101	40-140	7	30	
4,4'-DDT [2C]	0.0126	0.0025	mg/kg wet	0.01250		100	40-140	8	30	
Aldrin	0.0117	0.0025	mg/kg wet	0.01250		94	40-140	13	30	
Aldrin [2C]	0.0116	0.0025	mg/kg wet	0.01250		93	40-140	13	30	
alpha-BHC	0.0113	0.0025	mg/kg wet	0.01250		90	40-140	13	30	



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8081A Organochlorine Pesticides

Batch CF12723 - 3546

alpha-BHC [2C]	0.0114	0.0025	mg/kg wet	0.01250		91	40-140	14	30	
alpha-Chlordane	0.0121	0.0025	mg/kg wet	0.01250		97	40-140	10	30	
alpha-Chlordane [2C]	0.0121	0.0025	mg/kg wet	0.01250		97	40-140	10	30	
beta-BHC	0.0123	0.0025	mg/kg wet	0.01250		99	40-140	12	30	
beta-BHC [2C]	0.0124	0.0025	mg/kg wet	0.01250		99	40-140	13	30	
delta-BHC	0.0118	0.0025	mg/kg wet	0.01250		94	40-140	11	30	
delta-BHC [2C]	0.0120	0.0025	mg/kg wet	0.01250		96	40-140	11	30	
Dieldrin	0.0126	0.0025	mg/kg wet	0.01250		101	40-140	9	30	
Dieldrin [2C]	0.0124	0.0025	mg/kg wet	0.01250		99	40-140	9	30	
Endosulfan I	0.0115	0.0025	mg/kg wet	0.01250		92	40-140	8	30	
Endosulfan I [2C]	0.0121	0.0025	mg/kg wet	0.01250		97	40-140	10	30	
Endosulfan II	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	6	30	
Endosulfan II [2C]	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	6	30	
Endosulfan Sulfate	0.0129	0.0025	mg/kg wet	0.01250		103	40-140	6	30	
Endosulfan Sulfate [2C]	0.0131	0.0025	mg/kg wet	0.01250		105	40-140	6	30	
Endrin	0.0136	0.0025	mg/kg wet	0.01250		109	40-140	9	30	
Endrin [2C]	0.0134	0.0025	mg/kg wet	0.01250		108	40-140	9	30	
Endrin Aldehyde	0.0123	0.0025	mg/kg wet	0.01250		99	40-140	8	30	
Endrin Aldehyde [2C]	0.0123	0.0025	mg/kg wet	0.01250		99	40-140	11	30	
Endrin Ketone	0.0119	0.0025	mg/kg wet	0.01250		96	40-140	5	30	
Endrin Ketone [2C]	0.0120	0.0025	mg/kg wet	0.01250		96	40-140	5	30	
gamma-BHC (Lindane)	0.0117	0.0015	mg/kg wet	0.01250		94	40-140	13	30	
gamma-BHC (Lindane) [2C]	0.0118	0.0015	mg/kg wet	0.01250		94	40-140	13	30	
gamma-Chlordane	0.0120	0.0025	mg/kg wet	0.01250		96	40-140	9	30	
gamma-Chlordane [2C]	0.0120	0.0025	mg/kg wet	0.01250		96	40-140	10	30	
Heptachlor	0.0114	0.0025	mg/kg wet	0.01250		91	40-140	13	30	
Heptachlor [2C]	0.0115	0.0025	mg/kg wet	0.01250		92	40-140	13	30	
Heptachlor Epoxide	0.0120	0.0025	mg/kg wet	0.01250		96	40-140	11	30	
Heptachlor Epoxide [2C]	0.0120	0.0025	mg/kg wet	0.01250		96	40-140	11	30	
Hexachlorobenzene	0.0151	0.0025	mg/kg wet	0.01250		121	40-140	13	30	
Hexachlorobenzene [2C]	0.0153	0.0025	mg/kg wet	0.01250		122	40-140	14	30	
Methoxychlor	0.0124	0.0025	mg/kg wet	0.01250		99	40-140	6	30	
Methoxychlor [2C]	0.0127	0.0025	mg/kg wet	0.01250		101	40-140	11	30	

Surrogate: Decachlorobiphenyl	0.0110		mg/kg wet	0.01250		88	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0111		mg/kg wet	0.01250		89	30-150			
Surrogate: Tetrachloro-m-xylene	0.0105		mg/kg wet	0.01250		84	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0111		mg/kg wet	0.01250		89	30-150			

8082 Polychlorinated Biphenyls (PCB)

Batch CF12424 - 3540

Blank

Aroclor 1016	ND	0.0500	mg/kg wet							
Aroclor 1221	ND	0.0500	mg/kg wet							
Aroclor 1232	ND	0.0500	mg/kg wet							



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8082 Polychlorinated Biphenyls (PCB)

Batch CF12424 - 3540

Aroclor 1242	ND	0.0500	mg/kg wet							
Aroclor 1248	ND	0.0500	mg/kg wet							
Aroclor 1254	ND	0.0500	mg/kg wet							
Aroclor 1260	ND	0.0500	mg/kg wet							
Aroclor 1262	ND	0.0500	mg/kg wet							
Aroclor 1268	ND	0.0500	mg/kg wet							

Surrogate: Decachlorobiphenyl	0.0241		mg/kg wet	0.02500		97	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0230		mg/kg wet	0.02500		92	30-150			
Surrogate: Tetrachloro-m-xylene	0.0221		mg/kg wet	0.02500		89	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0233		mg/kg wet	0.02500		93	30-150			

LCS

Aroclor 1016	0.462	0.0500	mg/kg wet	0.5000		92	40-140			
Aroclor 1260	0.461	0.0500	mg/kg wet	0.5000		92	40-140			

Surrogate: Decachlorobiphenyl	0.0247		mg/kg wet	0.02500		99	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0236		mg/kg wet	0.02500		95	30-150			
Surrogate: Tetrachloro-m-xylene	0.0228		mg/kg wet	0.02500		91	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0226		mg/kg wet	0.02500		91	30-150			

LCS Dup

Aroclor 1016	0.470	0.0500	mg/kg wet	0.5000		94	40-140	2	50	
Aroclor 1260	0.474	0.0500	mg/kg wet	0.5000		95	40-140	3	50	

Surrogate: Decachlorobiphenyl	0.0251		mg/kg wet	0.02500		100	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.0239		mg/kg wet	0.02500		96	30-150			
Surrogate: Tetrachloro-m-xylene	0.0222		mg/kg wet	0.02500		89	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.0220		mg/kg wet	0.02500		88	30-150			

8100M Total Petroleum Hydrocarbons

Batch CF12918 - 3546

Blank

Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet							
Triacotane (C30)	ND	0.2	mg/kg wet							



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8100M Total Petroleum Hydrocarbons

Batch CF12918 - 3546

Surrogate: O-Terphenyl 5.17 mg/kg wet 5.000 103 40-140

LCS

Decane (C10)	1.6	0.2	mg/kg wet	2.500		64	40-140		
Docosane (C22)	2.1	0.2	mg/kg wet	2.500		84	40-140		
Dodecane (C12)	1.8	0.2	mg/kg wet	2.500		72	40-140		
Eicosane (C20)	2.2	0.2	mg/kg wet	2.500		86	40-140		
Hexacosane (C26)	2.2	0.2	mg/kg wet	2.500		88	40-140		
Hexadecane (C16)	2.0	0.2	mg/kg wet	2.500		82	40-140		
Nonadecane (C19)	2.1	0.2	mg/kg wet	2.500		83	40-140		
Nonane (C9)	1.3	0.2	mg/kg wet	2.500		51	30-140		
Octacosane (C28)	2.2	0.2	mg/kg wet	2.500		88	40-140		
Octadecane (C18)	2.1	0.2	mg/kg wet	2.500		85	40-140		
Tetracosane (C24)	2.2	0.2	mg/kg wet	2.500		88	40-140		
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		78	40-140		
Total Petroleum Hydrocarbons	30.0	37.5	mg/kg wet	35.00		86	40-140		
Triacontane (C30)	2.2	0.2	mg/kg wet	2.500		88	40-140		

Surrogate: O-Terphenyl 4.57 mg/kg wet 5.000 91 40-140

LCS Dup

Decane (C10)	2.0	0.2	mg/kg wet	2.500		78	40-140	21	50
Docosane (C22)	2.4	0.2	mg/kg wet	2.500		98	40-140	15	50
Dodecane (C12)	2.2	0.2	mg/kg wet	2.500		86	40-140	18	50
Eicosane (C20)	2.5	0.2	mg/kg wet	2.500		100	40-140	15	50
Hexacosane (C26)	2.6	0.2	mg/kg wet	2.500		103	40-140	16	50
Hexadecane (C16)	2.4	0.2	mg/kg wet	2.500		95	40-140	15	50
Nonadecane (C19)	2.4	0.2	mg/kg wet	2.500		96	40-140	15	50
Nonane (C9)	1.6	0.2	mg/kg wet	2.500		65	30-140	23	50
Octacosane (C28)	2.6	0.2	mg/kg wet	2.500		104	40-140	16	50
Octadecane (C18)	2.5	0.2	mg/kg wet	2.500		99	40-140	15	50
Tetracosane (C24)	2.6	0.2	mg/kg wet	2.500		103	40-140	15	50
Tetradecane (C14)	2.2	0.2	mg/kg wet	2.500		90	40-140	14	50
Total Petroleum Hydrocarbons	34.7	37.5	mg/kg wet	35.00		99	40-140	15	50
Triacontane (C30)	2.6	0.2	mg/kg wet	2.500		104	40-140	17	50

Surrogate: O-Terphenyl 5.25 mg/kg wet 5.000 105 40-140

Matrix Spike Source: 1106301-01

Decane (C10)	2.1	0.2	mg/kg dry	2.707	ND	79	40-140		
Docosane (C22)	2.7	0.2	mg/kg dry	2.707	ND	98	40-140		
Dodecane (C12)	2.4	0.2	mg/kg dry	2.707	ND	88	40-140		
Eicosane (C20)	2.8	0.2	mg/kg dry	2.707	ND	102	40-140		
Hexacosane (C26)	2.8	0.2	mg/kg dry	2.707	ND	104	40-140		
Hexadecane (C16)	2.6	0.2	mg/kg dry	2.707	ND	97	40-140		
Nonadecane (C19)	2.6	0.2	mg/kg dry	2.707	ND	98	40-140		
Nonane (C9)	1.7	0.2	mg/kg dry	2.707	ND	64	30-140		
Octacosane (C28)	2.9	0.2	mg/kg dry	2.707	ND	105	40-140		



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8100M Total Petroleum Hydrocarbons

Batch CF12918 - 3546

Octadecane (C18)	2.8	0.2	mg/kg dry	2.707	ND	104	40-140			
Tetracosane (C24)	2.8	0.2	mg/kg dry	2.707	ND	104	40-140			
Tetradecane (C14)	2.5	0.2	mg/kg dry	2.707	ND	91	40-140			
Total Petroleum Hydrocarbons	112	40.6	mg/kg dry	37.89	75.4	96	40-140			
Triacotane (C30)	2.9	0.2	mg/kg dry	2.707	ND	108	40-140			

Surrogate: O-Terphenyl	5.80		mg/kg dry	5.413		107	40-140			
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Matrix Spike Dup Source: 1106301-01

Decane (C10)	2.2	0.2	mg/kg dry	2.747	ND	79	40-140	1	50	
Docosane (C22)	2.8	0.2	mg/kg dry	2.747	ND	103	40-140	6	50	
Dodecane (C12)	2.5	0.2	mg/kg dry	2.747	ND	89	40-140	3	50	
Eicosane (C20)	2.9	0.2	mg/kg dry	2.747	ND	105	40-140	5	50	
Hexacosane (C26)	3.1	0.2	mg/kg dry	2.747	ND	111	40-140	8	50	
Hexadecane (C16)	2.7	0.2	mg/kg dry	2.747	ND	99	40-140	3	50	
Nonadecane (C19)	2.8	0.2	mg/kg dry	2.747	ND	101	40-140	4	50	
Nonane (C9)	1.7	0.2	mg/kg dry	2.747	ND	62	30-140	3	50	
Octacosane (C28)	3.0	0.2	mg/kg dry	2.747	ND	111	40-140	6	50	
Octadecane (C18)	2.9	0.2	mg/kg dry	2.747	ND	106	40-140	3	50	
Tetracosane (C24)	3.0	0.2	mg/kg dry	2.747	ND	109	40-140	6	50	
Tetradecane (C14)	2.6	0.2	mg/kg dry	2.747	ND	93	40-140	4	50	
Total Petroleum Hydrocarbons	149	41.2	mg/kg dry	38.46	75.4	191	40-140	28	50	M+
Triacotane (C30)	3.1	0.2	mg/kg dry	2.747	ND	114	40-140	6	50	

Surrogate: O-Terphenyl	6.04		mg/kg dry	5.495		110	40-140			
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8270C Semi-Volatile Organic Compounds

Batch CF12724 - 3546

Blank										
1,1-Biphenyl	ND	0.333	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,3,4,6-Tetrachlorophenol	ND	1.67	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270C Semi-Volatile Organic Compounds

Batch CF12724 - 3546

2-Nitroaniline	ND	0.333	mg/kg wet
2-Nitrophenol	ND	0.333	mg/kg wet
3,3'-Dichlorobenzidine	ND	0.667	mg/kg wet
3+4-Methylphenol	ND	0.667	mg/kg wet
3-Nitroaniline	ND	0.333	mg/kg wet
4,6-Dinitro-2-Methylphenol	ND	1.67	mg/kg wet
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet
4-Chloro-3-Methylphenol	ND	0.333	mg/kg wet
4-Chloroaniline	ND	0.667	mg/kg wet
4-Chloro-phenyl-phenyl ether	ND	0.333	mg/kg wet
4-Nitroaniline	ND	0.333	mg/kg wet
4-Nitrophenol	ND	1.67	mg/kg wet
Acenaphthene	ND	0.333	mg/kg wet
Acenaphthylene	ND	0.333	mg/kg wet
Acetophenone	ND	0.667	mg/kg wet
Aniline	ND	0.667	mg/kg wet
Anthracene	ND	0.333	mg/kg wet
Azobenzene	ND	0.333	mg/kg wet
Benzo(a)anthracene	ND	0.333	mg/kg wet
Benzo(a)pyrene	ND	0.167	mg/kg wet
Benzo(b)fluoranthene	ND	0.333	mg/kg wet
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet
Benzo(k)fluoranthene	ND	0.333	mg/kg wet
Benzoic Acid	ND	1.67	mg/kg wet
Benzyl Alcohol	ND	0.333	mg/kg wet
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet
Butylbenzylphthalate	ND	0.333	mg/kg wet
Carbazole	ND	0.333	mg/kg wet
Chrysene	ND	0.167	mg/kg wet
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet
Dibenzofuran	ND	0.333	mg/kg wet
Diethylphthalate	ND	0.333	mg/kg wet
Dimethylphthalate	ND	0.333	mg/kg wet
Di-n-butylphthalate	ND	0.333	mg/kg wet
Di-n-octylphthalate	ND	0.333	mg/kg wet
Fluoranthene	ND	0.333	mg/kg wet
Fluorene	ND	0.333	mg/kg wet
Hexachlorobenzene	ND	0.167	mg/kg wet
Hexachlorobutadiene	ND	0.333	mg/kg wet
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet
Hexachloroethane	ND	0.333	mg/kg wet
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270C Semi-Volatile Organic Compounds

Batch CF12724 - 3546

Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
N-Nitroso-Di-n-Propylamine	ND	0.333	mg/kg wet							
N-nitrosodiphenylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	2.25		mg/kg wet	3.333		68	30-130			
Surrogate: 2,4,6-Tribromophenol	3.40		mg/kg wet	5.000		68	30-130			
Surrogate: 2-Chlorophenol-d4	2.98		mg/kg wet	5.000		60	30-130			
Surrogate: 2-Fluorobiphenyl	2.27		mg/kg wet	3.333		68	30-130			
Surrogate: 2-Fluorophenol	2.94		mg/kg wet	5.000		59	30-130			
Surrogate: Nitrobenzene-d5	2.28		mg/kg wet	3.333		68	30-130			
Surrogate: Phenol-d6	2.99		mg/kg wet	5.000		60	30-130			
Surrogate: p-Terphenyl-d14	2.42		mg/kg wet	3.333		73	30-130			

LCS

1,1-Biphenyl	3.01	0.333	mg/kg wet	3.333		90	40-140			
1,2,4-Trichlorobenzene	2.77	0.333	mg/kg wet	3.333		83	40-140			
1,2-Dichlorobenzene	2.84	0.333	mg/kg wet	3.333		85	40-140			
1,3-Dichlorobenzene	2.81	0.333	mg/kg wet	3.333		84	40-140			
1,4-Dichlorobenzene	2.81	0.333	mg/kg wet	3.333		84	40-140			
2,3,4,6-Tetrachlorophenol	3.28	1.67	mg/kg wet	3.333		99	30-130			
2,4,5-Trichlorophenol	3.26	0.333	mg/kg wet	3.333		98	30-130			
2,4,6-Trichlorophenol	3.26	0.333	mg/kg wet	3.333		98	30-130			
2,4-Dichlorophenol	3.18	0.333	mg/kg wet	3.333		95	30-130			
2,4-Dimethylphenol	3.02	0.333	mg/kg wet	3.333		90	30-130			
2,4-Dinitrophenol	3.23	1.67	mg/kg wet	3.333		97	30-130			
2,4-Dinitrotoluene	3.39	0.333	mg/kg wet	3.333		102	40-140			
2,6-Dinitrotoluene	3.27	0.333	mg/kg wet	3.333		98	40-140			
2-Chloronaphthalene	2.59	0.333	mg/kg wet	3.333		78	40-140			
2-Chlorophenol	2.93	0.333	mg/kg wet	3.333		88	30-130			
2-Methylnaphthalene	3.06	0.333	mg/kg wet	3.333		92	40-140			
2-Methylphenol	3.08	0.333	mg/kg wet	3.333		92	30-130			
2-Nitroaniline	3.22	0.333	mg/kg wet	3.333		97	40-140			
2-Nitrophenol	3.02	0.333	mg/kg wet	3.333		90	30-130			
3,3'-Dichlorobenzidine	1.85	0.667	mg/kg wet	2.400		77	40-140			
3+4-Methylphenol	5.84	0.667	mg/kg wet	6.667		88	30-130			
3-Nitroaniline	3.15	0.333	mg/kg wet	3.333		94	40-140			
4,6-Dinitro-2-Methylphenol	3.32	1.67	mg/kg wet	3.333		100	30-130			
4-Bromophenyl-phenylether	3.13	0.333	mg/kg wet	3.333		94	40-140			
4-Chloro-3-Methylphenol	3.26	0.333	mg/kg wet	3.333		98	30-130			



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270C Semi-Volatile Organic Compounds

Batch CF12724 - 3546

4-Chloroaniline	2.56	0.667	mg/kg wet	3.333		77	40-140			
4-Chloro-phenyl-phenyl ether	3.14	0.333	mg/kg wet	3.333		94	40-140			
4-Nitroaniline	3.23	0.333	mg/kg wet	3.333		97	40-140			
4-Nitrophenol	3.20	1.67	mg/kg wet	3.333		96	30-130			
Acenaphthene	3.62	0.333	mg/kg wet	3.333		109	40-140			
Acenaphthylene	2.94	0.333	mg/kg wet	3.333		88	40-140			
Acetophenone	3.10	0.667	mg/kg wet	3.333		93	40-140			
Aniline	2.39	0.667	mg/kg wet	3.333		72	40-140			
Anthracene	3.68	0.333	mg/kg wet	3.333		110	40-140			
Azobenzene	2.92	0.333	mg/kg wet	3.333		87	40-140			
Benzo(a)anthracene	3.68	0.333	mg/kg wet	3.333		111	40-140			
Benzo(a)pyrene	3.60	0.167	mg/kg wet	3.333		108	40-140			
Benzo(b)fluoranthene	3.43	0.333	mg/kg wet	3.333		103	40-140			
Benzo(g,h,i)perylene	3.55	0.333	mg/kg wet	3.333		107	40-140			
Benzo(k)fluoranthene	3.44	0.333	mg/kg wet	3.333		103	40-140			
Benzoic Acid	2.83	1.67	mg/kg wet	3.333		85	40-140			
Benzyl Alcohol	2.91	0.333	mg/kg wet	3.333		87	40-140			
bis(2-Chloroethoxy)methane	2.94	0.333	mg/kg wet	3.333		88	40-140			
bis(2-Chloroethyl)ether	2.88	0.333	mg/kg wet	3.333		86	40-140			
bis(2-chloroisopropyl)Ether	2.97	0.333	mg/kg wet	3.333		89	40-140			
bis(2-Ethylhexyl)phthalate	3.23	0.333	mg/kg wet	3.333		97	40-140			
Butylbenzylphthalate	3.15	0.333	mg/kg wet	3.333		95	40-140			
Carbazole	3.29	0.333	mg/kg wet	3.333		99	40-140			
Chrysene	3.86	0.167	mg/kg wet	3.333		116	40-140			
Dibenzo(a,h)Anthracene	3.57	0.167	mg/kg wet	3.333		107	40-140			
Dibenzofuran	3.07	0.333	mg/kg wet	3.333		92	40-140			
Diethylphthalate	3.19	0.333	mg/kg wet	3.333		96	40-140			
Dimethylphthalate	3.20	0.333	mg/kg wet	3.333		96	40-140			
Di-n-butylphthalate	3.12	0.333	mg/kg wet	3.333		94	40-140			
Di-n-octylphthalate	3.13	0.333	mg/kg wet	3.333		94	40-140			
Fluoranthene	3.23	0.333	mg/kg wet	3.333		97	40-140			
Fluorene	3.71	0.333	mg/kg wet	3.333		111	40-140			
Hexachlorobenzene	3.14	0.167	mg/kg wet	3.333		94	40-140			
Hexachlorobutadiene	2.89	0.333	mg/kg wet	3.333		87	40-140			
Hexachlorocyclopentadiene	2.33	1.67	mg/kg wet	3.333		70	40-140			
Hexachloroethane	2.75	0.333	mg/kg wet	3.333		83	40-140			
Indeno(1,2,3-cd)Pyrene	3.64	0.333	mg/kg wet	3.333		109	40-140			
Isophorone	2.36	0.333	mg/kg wet	3.333		71	40-140			
Naphthalene	2.92	0.333	mg/kg wet	3.333		88	40-140			
Nitrobenzene	2.87	0.333	mg/kg wet	3.333		86	40-140			
N-Nitrosodimethylamine	2.71	0.333	mg/kg wet	3.333		81	40-140			
N-Nitroso-Di-n-Propylamine	2.75	0.333	mg/kg wet	3.333		82	40-140			
N-nitrosodiphenylamine	3.23	0.333	mg/kg wet	3.333		97	40-140			
Pentachlorophenol	3.72	1.67	mg/kg wet	3.333		112	30-130			
Phenanthrene	3.64	0.333	mg/kg wet	3.333		109	40-140			



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270C Semi-Volatile Organic Compounds

Batch CF12724 - 3546

Phenol	2.75	0.333	mg/kg wet	3.333		83	30-130			
Pyrene	3.77	0.333	mg/kg wet	3.333		113	40-140			
Pyridine	2.46	1.67	mg/kg wet	3.333		74	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	2.57		mg/kg wet	3.333		77	30-130			
Surrogate: 2,4,6-Tribromophenol	4.36		mg/kg wet	5.000		87	30-130			
Surrogate: 2-Chlorophenol-d4	3.72		mg/kg wet	5.000		74	30-130			
Surrogate: 2-Fluorobiphenyl	2.67		mg/kg wet	3.333		80	30-130			
Surrogate: 2-Fluorophenol	3.37		mg/kg wet	5.000		67	30-130			
Surrogate: Nitrobenzene-d5	2.58		mg/kg wet	3.333		78	30-130			
Surrogate: Phenol-d6	3.70		mg/kg wet	5.000		74	30-130			
Surrogate: p-Terphenyl-d14	2.77		mg/kg wet	3.333		83	30-130			

LCS Dup

1,1-Biphenyl	2.83	0.333	mg/kg wet	3.333		85	40-140	6	30	
1,2,4-Trichlorobenzene	2.72	0.333	mg/kg wet	3.333		82	40-140	2	30	
1,2-Dichlorobenzene	2.75	0.333	mg/kg wet	3.333		83	40-140	3	30	
1,3-Dichlorobenzene	2.72	0.333	mg/kg wet	3.333		82	40-140	3	30	
1,4-Dichlorobenzene	2.79	0.333	mg/kg wet	3.333		84	40-140	0.7	30	
2,3,4,6-Tetrachlorophenol	3.06	1.67	mg/kg wet	3.333		92	30-130	7	30	
2,4,5-Trichlorophenol	3.06	0.333	mg/kg wet	3.333		92	30-130	6	30	
2,4,6-Trichlorophenol	2.98	0.333	mg/kg wet	3.333		89	30-130	9	30	
2,4-Dichlorophenol	2.96	0.333	mg/kg wet	3.333		89	30-130	7	30	
2,4-Dimethylphenol	2.86	0.333	mg/kg wet	3.333		86	30-130	5	30	
2,4-Dinitrophenol	2.92	1.67	mg/kg wet	3.333		88	30-130	10	30	
2,4-Dinitrotoluene	3.18	0.333	mg/kg wet	3.333		95	40-140	7	30	
2,6-Dinitrotoluene	3.12	0.333	mg/kg wet	3.333		94	40-140	5	30	
2-Chloronaphthalene	2.46	0.333	mg/kg wet	3.333		74	40-140	5	30	
2-Chlorophenol	2.74	0.333	mg/kg wet	3.333		82	30-130	7	30	
2-Methylnaphthalene	2.78	0.333	mg/kg wet	3.333		84	40-140	10	30	
2-Methylphenol	2.83	0.333	mg/kg wet	3.333		85	30-130	8	30	
2-Nitroaniline	3.03	0.333	mg/kg wet	3.333		91	40-140	6	30	
2-Nitrophenol	2.83	0.333	mg/kg wet	3.333		85	30-130	6	30	
3,3'-Dichlorobenzidine	1.86	0.667	mg/kg wet	2.400		78	40-140	0.8	30	
3+4-Methylphenol	5.56	0.667	mg/kg wet	6.667		83	30-130	5	30	
3-Nitroaniline	2.92	0.333	mg/kg wet	3.333		88	40-140	8	30	
4,6-Dinitro-2-Methylphenol	3.15	1.67	mg/kg wet	3.333		94	30-130	5	30	
4-Bromophenyl-phenylether	3.08	0.333	mg/kg wet	3.333		92	40-140	2	30	
4-Chloro-3-Methylphenol	2.98	0.333	mg/kg wet	3.333		89	30-130	9	30	
4-Chloroaniline	2.33	0.667	mg/kg wet	3.333		70	40-140	9	30	
4-Chloro-phenyl-phenyl ether	2.92	0.333	mg/kg wet	3.333		87	40-140	7	30	
4-Nitroaniline	3.10	0.333	mg/kg wet	3.333		93	40-140	4	30	
4-Nitrophenol	2.94	1.67	mg/kg wet	3.333		88	30-130	8	30	
Acenaphthene	3.40	0.333	mg/kg wet	3.333		102	40-140	6	30	
Acenaphthylene	2.74	0.333	mg/kg wet	3.333		82	40-140	7	30	
Acetophenone	2.88	0.667	mg/kg wet	3.333		86	40-140	7	30	
Aniline	2.22	0.667	mg/kg wet	3.333		67	40-140	8	30	



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270C Semi-Volatile Organic Compounds

Batch CF12724 - 3546

Anthracene	3.56	0.333	mg/kg wet	3.333		107	40-140	3	30	
Azobenzene	2.86	0.333	mg/kg wet	3.333		86	40-140	2	30	
Benzo(a)anthracene	3.74	0.333	mg/kg wet	3.333		112	40-140	1	30	
Benzo(a)pyrene	3.41	0.167	mg/kg wet	3.333		102	40-140	5	30	
Benzo(b)fluoranthene	3.54	0.333	mg/kg wet	3.333		106	40-140	3	30	
Benzo(g,h,i)perylene	3.48	0.333	mg/kg wet	3.333		104	40-140	2	30	
Benzo(k)fluoranthene	3.38	0.333	mg/kg wet	3.333		101	40-140	2	30	
Benzoic Acid	2.61	1.67	mg/kg wet	3.333		78	40-140	8	30	
Benzyl Alcohol	2.76	0.333	mg/kg wet	3.333		83	40-140	5	30	
bis(2-Chloroethoxy)methane	2.86	0.333	mg/kg wet	3.333		86	40-140	3	30	
bis(2-Chloroethyl)ether	2.68	0.333	mg/kg wet	3.333		80	40-140	7	30	
bis(2-chloroisopropyl)Ether	2.88	0.333	mg/kg wet	3.333		86	40-140	3	30	
bis(2-Ethylhexyl)phthalate	3.22	0.333	mg/kg wet	3.333		97	40-140	0.3	30	
Butylbenzylphthalate	3.13	0.333	mg/kg wet	3.333		94	40-140	0.6	30	
Carbazole	3.23	0.333	mg/kg wet	3.333		97	40-140	2	30	
Chrysene	3.73	0.167	mg/kg wet	3.333		112	40-140	3	30	
Dibenzo(a,h)Anthracene	3.65	0.167	mg/kg wet	3.333		110	40-140	2	30	
Dibenzofuran	2.85	0.333	mg/kg wet	3.333		86	40-140	7	30	
Diethylphthalate	3.07	0.333	mg/kg wet	3.333		92	40-140	4	30	
Dimethylphthalate	3.05	0.333	mg/kg wet	3.333		92	40-140	5	30	
Di-n-butylphthalate	3.08	0.333	mg/kg wet	3.333		92	40-140	1	30	
Di-n-octylphthalate	3.20	0.333	mg/kg wet	3.333		96	40-140	2	30	
Fluoranthene	3.12	0.333	mg/kg wet	3.333		94	40-140	4	30	
Fluorene	3.45	0.333	mg/kg wet	3.333		103	40-140	7	30	
Hexachlorobenzene	3.15	0.167	mg/kg wet	3.333		94	40-140	0.4	30	
Hexachlorobutadiene	2.74	0.333	mg/kg wet	3.333		82	40-140	6	30	
Hexachlorocyclopentadiene	2.21	1.67	mg/kg wet	3.333		66	40-140	5	30	
Hexachloroethane	2.77	0.333	mg/kg wet	3.333		83	40-140	0.7	30	
Indeno(1,2,3-cd)Pyrene	3.60	0.333	mg/kg wet	3.333		108	40-140	1	30	
Isophorone	2.19	0.333	mg/kg wet	3.333		66	40-140	7	30	
Naphthalene	2.75	0.333	mg/kg wet	3.333		82	40-140	6	30	
Nitrobenzene	2.83	0.333	mg/kg wet	3.333		85	40-140	2	30	
N-Nitrosodimethylamine	2.71	0.333	mg/kg wet	3.333		81	40-140	0.2	30	
N-Nitroso-Di-n-Propylamine	2.57	0.333	mg/kg wet	3.333		77	40-140	7	30	
N-nitrosodiphenylamine	3.16	0.333	mg/kg wet	3.333		95	40-140	2	30	
Pentachlorophenol	3.50	1.67	mg/kg wet	3.333		105	30-130	6	30	
Phenanthrene	3.52	0.333	mg/kg wet	3.333		106	40-140	3	30	
Phenol	2.54	0.333	mg/kg wet	3.333		76	30-130	8	30	
Pyrene	3.74	0.333	mg/kg wet	3.333		112	40-140	0.8	30	
Pyridine	2.29	1.67	mg/kg wet	3.333		69	40-140	7	30	
Surrogate: 1,2-Dichlorobenzene-d4	2.43		mg/kg wet	3.333		73	30-130			
Surrogate: 2,4,6-Tribromophenol	4.18		mg/kg wet	5.000		84	30-130			
Surrogate: 2-Chlorophenol-d4	3.40		mg/kg wet	5.000		68	30-130			
Surrogate: 2-Fluorobiphenyl	2.51		mg/kg wet	3.333		75	30-130			
Surrogate: 2-Fluorophenol	3.24		mg/kg wet	5.000		65	30-130			
Surrogate: Nitrobenzene-d5	2.37		mg/kg wet	3.333		71	30-130			



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270C Semi-Volatile Organic Compounds										
Batch CF12724 - 3546										
Surrogate: Phenol-d6	3.33		mg/kg wet	5.000		67	30-130			
Surrogate: p-Terphenyl-d14	2.69		mg/kg wet	3.333		81	30-130			
Classical Chemistry										
Batch CF13005 - TCN Prep										
Blank										
Total Cyanide	ND	1.00	mg/kg wet							
LCS										
Total Cyanide	5.13	1.00	mg/kg wet	5.015		102	90-110			
LCS										
Total Cyanide	20.2	1.00	mg/kg wet	20.06		101	90-110			
LCS Dup										
Total Cyanide	19.7	1.00	mg/kg wet	20.06		98	90-110	2	20	
Reference										
Total Cyanide	26.4	1.99	mg/kg wet	26.60		99	69-136			



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

Notes and Definitions

U	Analyte included in the analysis, but not detected
PT	Pentachlorophenol tailing factor > 2.
P	Percent difference between primary and confirmation results exceeds 40% (P).
M+	Matrix Spike recovery is above upper control limit (M+).
ICV	Initial Calibration Verification recovery is outside of control limit (ICV).
IC	Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).
DDT	DDT breakdown > 20%
D+	Relative percent difference for duplicate is outside of criteria (D+).
D	Diluted.
B-	Blank Spike recovery is below lower control limit (B-).
ND	Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
MDL	Method Detection Limit
MRL	Method Reporting Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
I/V	Initial Volume
F/V	Final Volume
§	Subcontracted analysis; see attached report
1	Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
2	Range result excludes concentrations of target analytes eluting in that range.
3	Range result excludes the concentration of the C9-C10 aromatic range.
Avg	Results reported as a mathematical average.
NR	No Recovery
[CALC]	Calculated Analyte



CERTIFICATE OF ANALYSIS

Client Name: Woodard & Curran - RI
Client Project ID: SK Cranston

ESS Laboratory Work Order: 1106301

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP)

A2LA Accredited: Testing Cert# 2864.01

<http://www.a2la.org/scopepdf/2864-01.pdf>

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/labs/waterlabs-instate.php>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/out_state.pdf

Maine Potable and Non Potable Water: RI0002

http://www.maine.gov/dep/blwq/topic/vessel/lab_list.pdf

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/labcert/labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://www4.egov.nh.gov/des/nhelap/namesearch.asp>

New York (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

United States Department of Agriculture Soil Permit: S-54210

Maryland Potable Water: 301

http://www.mde.state.md.us/assets/document/WSP_labs-2009apr20.pdf

South Carolina Volatile Organic Compounds in Potable Water: 78003

New Jersey Potable (VOA) and Non Potable Water (RCRA), Solids and Hazardous Waste: RI002

<http://www.nj.gov/dep/oqa/certlabs.htm>

CHEMISTRY

A2LA Accredited: Testing Cert # 2864.01

Lead in Paint, Phthalates, Lead in Children's Metals Products (Including Jewelry)

<http://www.A2LA.org/dirsearchnew/newsearch.cfm>

CPSC ID# 1141

Lead Paint, Lead in Children's Metals Jewelry

<http://www.cpsc.gov/cgi-bin/labapplist.aspx>

Sample and Cooler Receipt ChecklistClient: Woodard & Curran
Client Project ID: _____
Shipped/Delivered Via: ClientESS Project ID: 11060301
Date Project Due: 7/1/11
Days For Project: 5 Day**Items to be checked upon receipt:**

- | | | | |
|--|-------------------------------|---|---|
| 1. Air Bill Manifest Present? | <input type="checkbox"/> * No | 10. Are the samples properly preserved? | <input type="checkbox"/> Yes |
| Air No.: | | 11. Proper sample containers used? | <input type="checkbox"/> Yes |
| 2. Were Custody Seals Present? | <input type="checkbox"/> No | 12. Any air bubbles in the VOA vials? | <input type="checkbox"/> N/A |
| 3. Were Custody Seals Intact? | <input type="checkbox"/> N/A | 13. Holding times exceeded? | <input type="checkbox"/> No |
| 4. Is Radiation count < 100 CPM? | <input type="checkbox"/> Yes | 14. Sufficient sample volumes? | <input type="checkbox"/> Yes |
| 5. Is a cooler present? | <input type="checkbox"/> Yes | 15. Any Subcontracting needed? | <input type="checkbox"/> No |
| Cooler Temp: <u>2.8</u> | | 16. Are ESS labels on correct containers? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Iced With: <u>Icepacks</u> | | 17. Were samples received intact? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 6. Was COC included with samples? | <input type="checkbox"/> Yes | ESS Sample IDs: _____ | |
| 7. Was COC signed and dated by client? | <input type="checkbox"/> Yes | Sub Lab: _____ | |
| 8. Does the COC match the sample | <input type="checkbox"/> Yes | Analysis: _____ | |
| 9. Is COC complete and correct? | <input type="checkbox"/> Yes | TAT: _____ | |

18. Was there need to call project manager to discuss status? If yes, please explain.

LL received on 6/24/11 & Frozen
@ 1615

Who was called?: _____

By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	40 ml - VOA	1	MeOH
1	Yes	40 ml - VOA	2	other
1	Yes	8 oz Soil Jar	2	NP

Completed By: mkDate/Time: 6/24/11Reviewed By: vmDate/Time: 6/24/11

APPENDIX E: DATA VALIDATION SUMMARIES

W&C Project No.:	219303.29			SDG No.:	1106094
Project:	Safety-Kleen Cranston			Analysis:	PCBs
Medium:	Soil			Analytical Method:	8082 with 3540 extraction
Laboratory:	ESS Laboratory, Inc.			Date Collected:	6/8/2011
Date Data Evaluation Completed:	9/22/2011			Date Analyzed:	6/9/2011
Sample IDs:	SW-1, SW-2, SW-3, SW-9				
QC Parameter	All in Spec.?	Non-Compliant Results	Flag	Action/ Notes	Associated Samples
Holding Times	Yes	No	No		
Detection Limits	No	No	No	DLs above PAL of 10 ppm, but sample located in excavation area where additional excavation required.	SW-1
Blanks					
Method Blanks	Yes	No	No	No action	
Equipment Blank	Not provided			Dedicated sampling equipment	
Other QC					
Initial Calibration	Not evaluated				
Continuing Calibration	Not evaluated				
Surrogate Recoveries	No	No	No	Surrogate diluted out of sample due to elevated detections of Aroclor 1248; no action	SW-1
LCS Results	Yes	No	No	No action	
Matrix Spikes/Matrix Spike Duplicates (SW-15; SW-8)	No	Recoveries of Arochlor 1016 and 1260 were non-detect due to dilutions	No	MS/MSDs analyzed with SDG 1106125; No action since recoveries were diluted due to elevated detections of Arochlor 1248	MS-SW-8, MSD-SW-8 (1106125-07)
Field Duplicates	Yes	No	No	Field duplicates analyzed with SDG 1106124 and SDG 1106125; no action	SW-15 RPD 20%; SW-8 RPD 27%; SW-19 RPD 100% (all ND)
Summary					
Validity of Data	Yes	None	None	None	All

SW-15	DUP-SW-15 Aroclor	RPD (QC limit = 50%)
1.63	2	20%
SW-8		
1920	2520	27%

W&C Project No.:	219303.29			SDG No.:	1106095
Project:	Safety-Kleen Cranston			Analysis:	PCBs
Medium:	Soil			Analytical Method:	8082 with 3540 extraction
Laboratory:	ESS Laboratory, Inc.			Date Collected:	6/8/2011
Date Data Evaluation Completed:	9/23/2011			Date Analyzed:	6/10/11, 6/13/11
Sample IDs:	SW-4, SW-5, SW-6, SW-7, VB-1, VB-2, VB-3, VB-4, VB-5, VB-6, VB-7, VB-8, VB-9, VB-10, VB-11, VB-12				
QC Parameter	All in Spec.?	Non-Compliant Results	Flag	Action/ Notes	Associated Samples
Holding Times	Yes	No	No	No action	
Detection Limits	Yes	No	No	No action	
Blanks					
Method Blanks	Yes	No	No	No action	
Equipment Blank	Not provided			Dedicated sampling equipment	
Other QC					
Initial Calibration	Not evaluated				
Continuing Calibration	Not evaluated				
Surrogate Recoveries	No	No	No	Surrogate diluted out of sample due to elevated detection of Aroclor 1248; no action	SW-4, VB-2
Surrogate Recoveries	No	No	No	Surrogate recovery below lower control limit	SW-6
Surrogate Recoveries	No	No	No	Surrogate recovery above upper control limit	VB-7
LCS Results	Yes	No	No	No action	
Matrix Spikes/Matrix Spike Duplicates (SW-15; SW-8)	No	Recoveries of Aroclor 1016 and 1260 were non-detect due to dilutions	No	MS/MSDs analyzed with SDG 11625; No action since recoveries were diluted due to elevated detections of Aroclor 1248	MS-SW-8, MSD-SW-8 (1106125-07)
Field Duplicates	Yes	No	No	Field duplicates analyzed with SDG 1106124 and SDG 1106125; no action	SW-15 RPD 20%; SW-8 RPD 27%; SW-19 RPD 100% (all ND)
Summary					
Validity of Data	Yes	None	None	None	All

SW-15	DUP-SW-15	Aroclor	RPD (QC limit = 50%)
1.63	2	1248	20%
SW-8	1920	2520	1260
			27%

W&C Project No.:	219303.29			SDG No.:	1106124
Project:	Safety-Kleen Cranston			Analysis:	PCBs
Medium:	Soil			Analytical Method:	8082 with 3540 extraction
Laboratory:	ESS Laboratory, Inc.			Date Collected:	6/9/2011
Date Data Evaluation Completed:	9/23/2011			Date Analyzed:	6/11/11, 6/13/11
Sample IDs:	SW-18, SW-19, SW-12, DUP-SW-19, SW-23, SW-24				
QC Parameter	All in Spec.?	Non-Compliant Results	Flag	Action/ Notes	Associated Samples
Holding Times	Yes	No	No	No action	
Detection Limits	yes	No	No	No action	
Blanks					
Method Blanks	Yes	No	No	No action	
Equipment Blank	Not provided			Dedicated sampling equipment	
Other QC					
Initial Calibration	Not evaluated				
Continuing Calibration	Not evaluated				
Surrogate Recoveries	Yes	No	No	No action	
LCS Results	Yes	No	No	No action	
Matrix Spikes/Matrix Spike Duplicates (SW-15; SW-8)	No	Recoveries of Arochlor 1016 and 1260 were non-detect due to dilutions	No	MS/MSDs analyzed with SDG 11625; No action since recoveries were diluted due to elevated detections of Arochlor 1248	MS-SW-8 , MSD-SW-8 (1106125-07)
Field Duplicates	Yes	No	No	No action	SW-19 RPD 100% (all ND)
Summary					
Validity of Data	Yes	None	None	None	All

SW-19

DUP-SW-19 Aroclor

RPD (QC limit = 50%)
#DIV/0!
#DIV/0!

W&C Project No.:	219303.29			SDG No.:	1106125
Project:	Safety-Kleen Cranston			Analysis:	PCBs
Medium:	Soil			Analytical Method:	8082 with 3540 extraction
Laboratory:	ESS Laboratory, Inc.			Date Collected:	6/9/2011
Date Data Evaluation Completed:	9/23/2011			Date Analyzed:	6/13/11, 6/14/2011
Sample IDs:	VB-16, VB-17, SW-15, SW-17, DUP-SW-15, SW-16, SW-8, DUP-SW-8, SW-13, SW-14, VB-13, VB-14, VB-15, SW-20, SW-21, SW-22				
QC Parameter	All in Spec.?	Non-Compliant Results	Flag	Action/ Notes	Associated Samples
Holding Times	Yes	No	No	No action	
Detection Limits	No	No	No	DLs above PAL of 10 ppm, but sample located in excavation area where additional excavation required.	VB-16, VB-17, SW-8, DUP-SW-8, SW-14
Blanks					
Method Blanks	Yes	No	No	No action	
Equipment Blank	Not provided			Dedicated sampling equipment	
Other QC					
Initial Calibration	Not evaluated				
Continuing Calibration	Not evaluated				
Surrogate Recoveries	No	No	No	Surrogate diluted out of sample due to elevated detection of Aroclor 1248; no action	VB-16, VB-17, SW-8, DUP-SW-8, SW-14
LCS Results	Yes	No	No	No action	
Matrix Spikes/Matrix Spike Duplicates (SW-15; SW-8)	No	Recoveries of Aroclor 1016 and 1260 were non-detect due to dilutions	No	MS/MSDs analyzed with SDG 11625; No action since recoveries were diluted due to elevated detections of Aroclor 1248	MS-SW-8, MSD-SW-8 (1106125-07)
Field Duplicates	Yes	No	No	No action	SW-15 RPD 20%; SW-8 RPD 27%
Summary					
Validity of Data	Yes	None	None	None	All

SW-15	DUP-SW-15 Aroclor	RPD (QC limit =
1.63	2	50%)
	1248	20%
SW-8		
1920	2520	27%
	1260	

W&C Project No.:	219303.29			SDG No.:	1106132
Project:	Safety-Kleen Cranston			Analysis:	PCBs
Medium:	Soil			Analytical Method:	8082 with 3540 extraction
Laboratory:	ESS Laboratory, Inc.			Date Collected:	6/9/2011
Date Data Evaluation Completed:	9/23/2011			Date Analyzed:	6/16/2011
Sample IDs:	SW-10, SW-11, VB-18, VB-19, VB-20, VB-21, VB-22, VB-23, VB-24				
QC Parameter	All in Spec.?	Non-Compliant Results	Flag	Action/ Notes	Associated Samples
Holding Times	Yes	No	No	No action	
Detection Limits	Yes	No	No	No action	
Blanks					
Method Blanks	Yes	No	None	No action	
Equipment Blank	Not provided			Dedicated sampling equipment	
Other QC					
Initial Calibration	Not evaluated				
Continuing Calibration	Not evaluated				
Surrogate Recoveries	Yes	No	No	No action	
LCS Results	Yes	No	No	No action	
Matrix Spikes/Matrix Spike Duplicates (SW-15; SW-8)	No	Recoveries of Arochlor 1016 and 1260 were non-detect due to dilutions	No	MS/MSDs analyzed with SDG 11625; No action since recoveries were diluted due to elevated detections of Arochlor 1248	SW-8 (1106125-07)
Field Duplicates	Yes	No	No	Field duplicates analyzed with SDG 1106124 and SDG 1106125; no action	SW-15 RPD 20%; SW-8 RPD 27%; SW-19 RPD 100% (all ND)
Summary					
Validity of Data	Yes	None	None	None	All

SW-15	DUP-SW-15 Arochlor	RPD (QC limit =
1.63	2	50%)
	1248	20%
SW-8		
1920	2520	27%
	1260	

W&C Project No.:	219303.29			SDG No.:	1106217
Project:	Safety-Kleen Cranston			Analysis:	PCBs
Medium:	Soil			Analytical Method:	8082 with 3540 extraction
Laboratory:	ESS Laboratory, Inc.			Date Collected:	6/17/2011
Date Data Evaluation Completed:	9/23/2011			Date Analyzed:	6/21/11, 6/22/11
Sample IDs:	SW-25, SW-26, SW-27, SW-28, SW-29, VB-25, VB-26, VB-27				
QC Parameter	All in Spec.?	Non-Compliant Results	Flag	Action/ Notes	Associated Samples
Holding Times	Yes	No	No	No action	
Detection Limits	No	No	No	DLs above PAL of 10 ppm, but sample located in excavation area where additional excavation required.	SW-26
Blanks					
Method Blanks	Yes	No	None	No action	
Equipment Blank	Not provided			Dedicated sampling equipment	
Other QC					
Initial Calibration	Not evaluated				
Continuing Calibration	Not evaluated				
Surrogate Recoveries	No	No	No	Surrogate diluted out of sample due to elevated detection of Aroclor 1248/Aroclor 1254; no action	SW-25, SW-26, SW-28, SW-29
LCS Results	Yes	No	No	No action	
Matrix Spikes/Matrix Spike Duplicates (SW-15; SW-8)	Yes	No	No	MS/MSDs analyzed with SDG 1106241; No action	MS-SW-30, MSD-SW-30 (1106241-01)
Field Duplicates	Yes	No	No	Field duplicates analyzed with SDG 1106241; no action	SW-30 RPD 100% (all ND)
Summary					
Validity of Data	Yes	None	None	None	All

SW-30

DUP-SW-30 Aroclor

RPD (QC limit = 50%)

W&C Project No.:	219303.29			SDG No.:	1106241
Project:	Safety-Kleen Cranston			Analysis:	PCBs
Medium:	Soil			Analytical Method:	8082 with 3540 extraction
Laboratory:	ESS Laboratory, Inc.			Date Collected:	6/20/2011
Date Data Evaluation Completed:	9/23/2011			Date Analyzed:	6/23/2011
Sample IDs:	SW-20, DUP-SW-30, SW-31, VB-28, SW-32, VB-16B, VB-17B				
QC Parameter	All in Spec.?	Non-Compliant Results	Flag	Action/ Notes	Associated Samples
Holding Times	Yes	No	No	No action	
Detection Limits	Yes	No	No	No action	
Blanks					
Method Blanks	Yes	No	No	No action	
Equipment Blank	Not provided			Dedicated sampling equipment	
Other QC					
Initial Calibration	Not evaluated				
Continuing Calibration	Not evaluated				
Surrogate Recoveries	Yes	No	No	No action	
LCS Results	Yes	No	No	No action	
Matrix Spikes/Matrix Spike Duplicates (SW-15; SW-8)	Yes	No	No	No action	MS-SW-30, MSD-SW-30 (1106241-01)
Field Duplicates	Yes	No	No	No action	SW-30 RPD 100% (all ND)
Summary					
Validity of Data	Yes	None	None	None	All

SW-30

DUP-SW-30 Aroclor

RPD (QC limit = 50%)

W&C Project No.:	219303.29			SDG No.:	1106263
Project:	Safety-Kleen Cranston			Analysis:	PCBs
Medium:	Soil			Analytical Method:	8082 with 3540 extraction
Laboratory:	ESS Laboratory, Inc.			Date Collected:	6/21/2011
Date Data Evaluation Completed:	9/23/2011			Date Analyzed:	6/24/11, 6/25/11, 6/27/11, 6/28/11, 6/29/11
Sample IDs:	VB-29, VB-30, VB-31, VB-32, VB-33, SW-33, SW-34, SW-35, SW-36, SW-37, SW-38, SW-39, SW-40, SW-41, SW-42, VB-34, VB-35, VB-36, VB-37, VB-2B, DUP-VB-2B, SW-43, SW-44, SW-45, SW-46, SW-47, SW-48, SW-49, DUP-SW-49, SW-50, VB-38, VB-39, VB-40, VB-41				
QC Parameter	All in Spec.?	Non-Compliant Results	Flag	Action/ Notes	Associated Samples
Holding Times	Yes	No	No	No action	
Detection Limits	No	No	No	No action	SW-45
Blanks					
Method Blanks	Yes	No	No	No action	
Equipment Blank	Not provided			Dedicated sampling equipment	
Other QC					
Initial Calibration	Not evaluated				
Continuing Calibration	Not evaluated				
Surrogate Recoveries	No	No	No	Surrogate diluted out of sample due to elevated detection of Aroclor 1248; no action	SW-45
Surrogate Recoveries	No	No	No	Surrogate recovery below lower control limit; no action	DUP-SW-49
LCS Results	Yes	No	No	No action	
Matrix Spikes/Matrix Spike Duplicates (VB-2B, SW-49)	Yes	No	No	No action	MS-VB-2B, MSD-VB-2B (1106263-20); MS-SW-49, MSD-SW-29 (1106263-28)
Field Duplicates	Yes	No	No	No action	VB-2B RPD 100% (all ND); SW-49 RPD 2%
Summary					
Validity of Data	Yes	None	None	None	All

SW-49

DUP-SW-49 Aroclor
2.23 2.18

1254

RPD (QC limit =
50%)
-2%

W&C Project No.:	219303.29			SDG No.:	1107095
Project:	Safety-Kleen Cranston			Analysis:	PCBs
Medium:	Soil			Analytical Method:	8082 with 3540 extraction
Laboratory:	ESS Laboratory, Inc.			Date Collected:	7/12/2011
Date Data Evaluation Completed:	9/23/2011			Date Analyzed:	7/13/11, 7/14/11
Sample IDs:	SW-46A, SW-45A, SW-44A, SW-51, SW-52, SW-53, SW-54, SW-55, VB-42, VB-43, VB-44, VB-45, VB-46, DUP-VB-46				
QC Parameter	All in Spec.?	Non-Compliant Results	Flag	Action/ Notes	Associated Samples
Holding Times	Yes	No	No	No action	
Detection Limits	Yes	No	No	No action	
Blanks					
Method Blanks	Yes	No	No	No action	
Equipment Blank	Not provided			Dedicated sampling equipment	
Other QC					
Initial Calibration	Not evaluated				
Continuing Calibration	Not evaluated				
Surrogate Recoveries	Yes	No	No	No action	
LCS Results	Yes	No	No	No action	
Matrix Spikes/Matrix Spike Duplicates (VB-46)	Yes	No	No	No action	MS-VB-46, MD-VB-462B (1107095-13)
Field Duplicates (VB-46)	Yes	No	No	No action	VB-46 RPD 13% and 15% for Aroclor 1248 and 1254, respectively
Summary					
Validity of Data	Yes	None	None	None	All

VB-46	DUP-VB-46	Aroclor	RPD (QC limit = 50%)
10.2	11.6	1248	13%
1.44	1.67	1254	15%

W&C Project No.:	219303.29			SDG No.:	1107159
Project:	Safety-Kleen Cranston			Analysis:	PCBs
Medium:	Soil			Analytical Method:	8082 with 3540 extraction
Laboratory:	ESS Laboratory, Inc.			Date Collected:	7/15/2011
Date Data Evaluation Completed:	9/23/2011			Date Analyzed:	7/18/11, 7/19/11, 7/22/11
Sample IDs:	SW-56, SW-57, SW-58, SW-39A, SW-25A, SW-41A, SW-32A, VB-47, VB-48, VB-49, VB-50				
QC Parameter	All in Spec.?	Non-Compliant Results	Flag	Action/ Notes	Associated Samples
Holding Times	Yes	No	No	No action	
Detection Limits	Yes	No	No	No action	
Blanks					
Method Blanks	Yes	No	No	No action	
Equipment Blank	Not provided			Dedicated sampling equipment	
Other QC					
Initial Calibration	Not evaluated				
Continuing Calibration	Not evaluated				
Surrogate Recoveries	No	No	No	Surrogate diluted out of sample due to elevated detections of Aroclor 1248, 1254; no action	SW-25A
LCS Results	Yes	No	No	No action	
Matrix Spikes/Matrix Spike Duplicates (VB-46)	Yes	No	No	MS/MSD analyzed with SDG 1107095; no action	MS-VB-46, MD-VB-462B (1107095-13)
Field Duplicates (VB-46)	Yes	No	No	Field duplicate analyzed with SDG 1107095; no action	VB-46 RPD 13% and 15% for Aroclor 1248 and 1254, respectively
Summary					
Validity of Data	Yes	None	None	None	All

VB-46	DUP-VB-46	Aroclor	RPD (QC limit = 50%)
10.2	11.6	1248	13%
1.44	1.67	1254	15%

W&C Project No.:	219303.29			SDG No.:	1107259
Project:	Safety-Kleen Cranston			Analysis:	PCBs
Medium:	Soil			Analytical Method:	8082 with 3540 extraction
Laboratory:	ESS Laboratory, Inc.			Date Collected:	7/26/2011
Date Data Evaluation Completed:	9/23/2011			Date Analyzed:	7/29/11, 8/01/11
Sample IDs:	SW-59, VB-51, VB-42A, VB-43A, VB-44A, VB-46A				
QC Parameter	All in Spec.?	Non-Compliant Results	Flag	Action/ Notes	Associated Samples
Holding Times	Yes	No	No	No action	
Detection Limits	Yes	No	No	No action	
Blanks					
Method Blanks	Yes	No	No	No action	
Equipment Blank	Not provided			Dedicated sampling equipment	
Other QC					
Initial Calibration	Not evaluated				
Continuing Calibration	Not evaluated				
Surrogate Recoveries	Yes	No	No	No action	
LCS Results	Yes	No	No	No action	
Matrix Spikes/Matrix Spike Duplicates (VB-46)	Yes	No	No	MS/MSD analyzed with SDG 1107095; no action	MS-VB-46, MD-VB-462B (1107095-13)
Field Duplicates (VB-46)	Yes	No	No	Field duplicate analyzed with SDG 1107095; no action	VB-46 RPD 13% and 15% for Aroclor 1248 and 1254, respectively
Summary					
Validity of Data	Yes	None	None	None	All

VB-46	DUP-VB-46	Aroclor	RPD (QC limit = 50%)
10.2	11.6	1248	13%
1.44	1.67	1254	15%

W&C Project No.:	219303.29			SDG No.:	107284
Project:	Safety-Kleen Cranston			Analysis:	PCBs
Medium:	Soil			Analytical Method:	8082 with 3540 extraction
Laboratory:	ESS Laboratory, Inc.			Date Collected:	7/27/2011
Date Data Evaluation Completed:	9/23/2011			Date Analyzed:	7/29/11, 7/30/11
Sample IDs:	VB-52, VB-53, VB-54, VB-55, SW-56A, SW-57A				
QC Parameter	All in Spec.?	Non-Compliant Results	Flag	Action/ Notes	Associated Samples
Holding Times	Yes	No	No	No action	
Detection Limits	Yes	No	No	No action	
Blanks					
Method Blanks	Yes	No	No	No action	
Equipment Blank	Not provided			Dedicated sampling equipment	
Other QC					
Initial Calibration	Not evaluated				
Continuing Calibration	Not evaluated				
Surrogate Recoveries	Yes	No	No	No action	
LCS Results	Yes	No	No	No action	
Matrix Spikes/Matrix Spike Duplicates (VB-46)	Yes	No	No	MS/MSD analyzed with SDG 1107095; no action	MS-VB-46, MD-VB-462B (1107095-13)
Field Duplicates (VB-46)	Yes	No	No	Field duplicate analyzed with SDG 1107095; no action	VB-46 RPD 13% and 15% for Aroclor 1248 and 1254, respectively
Summary					
Validity of Data	Yes	None	None	None	All

VB-46	DUP-VB-46	Aroclor	RPD (QC limit = 50%)
10.2	11.6	1248	13%
1.44	1.67	1254	15%

W&C Project No.:	219303.29			SDG No.:	1108081
Project:	Safety-Kleen Cranston			Analysis:	PCBs
Medium:	Soil			Analytical Method:	8082 with 3540 extraction
Laboratory:	ESS Laboratory, Inc.			Date Collected:	8/5/2011
Date Data Evaluation Completed:	9/23/2011			Date Analyzed:	8/9/11, 8/10/11
Sample IDs:	VB-42B, VB-51A, SW-59A, SW-59B				
QC Parameter	All in Spec.?	Non-Compliant Results	Flag	Action/ Notes	Associated Samples
Holding Times	Yes	No	No	No action	
Detection Limits	Yes	No	No	No action	
Blanks					
Method Blanks	Yes	No	No	No action	
Equipment Blank	Not provided			Dedicated sampling equipment	
Other QC					
Initial Calibration	Not evaluated				
Continuing Calibration	Not evaluated				
Surrogate Recoveries	No	No	No	Surrogate recovery above upper control limit	VB-42B
LCS Results	Yes	No	No	No action	
Matrix Spikes/Matrix Spike Duplicates (VB-46)	Yes	No	No	MS/MSD analyzed with SDG 1107095; no action	MS-VB-46, MD-VB-462B (1107095-13)
Field Duplicates (VB-46)	Yes	No	No	Field duplicate analyzed with SDG 1107095; no action	VB-46 RPD 13% and 15% for Aroclor 1248 and 1254, respectively
Summary					
Validity of Data	Yes	None	None	None	All

VB-46

DUP-VB-46 Aroclor
10.2 11.6
1.44 1.67

1248
1254

RPD (QC limit =
50%)
13%
15%

APPENDIX F: PROUCL OUTPUT DATA

General UCL Statistics for Data Sets with Non-Detects			
User Selected Options			
From File	C:\Users\jbonn\Desktop\SK PCB VB Data.wst		
Full Precision	OFF		
Confidence Coefficient	95%		
Number of Bootstrap Operations	2000		
PCBs			
General Statistics			
Number of Valid Data	55	Number of Detected Data	47
Number of Distinct Detected Data	47	Number of Non-Detect Data	8
		Percent Non-Detects	14.55%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.209	Minimum Detected	-1.565
Maximum Detected	10.95	Maximum Detected	2.393
Mean of Detected	2.642	Mean of Detected	0.437
SD of Detected	2.648	SD of Detected	1.113
Minimum Non-Detect	0.206	Minimum Non-Detect	-1.58
Maximum Non-Detect	0.236	Maximum Non-Detect	-1.444
Note: Data have multiple DLs - Use of KM Method is recommended		Number treated as Non-Detect	10
For all methods (except KM, DL/2, and ROS Methods),		Number treated as Detected	45
Observations < Largest ND are treated as NDs		Single DL Non-Detect Percentage	18.18%
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.823	Shapiro Wilk Test Statistic	0.95
5% Shapiro Wilk Critical Value	0.946	5% Shapiro Wilk Critical Value	0.946
Data not Normal at 5% Significance Level		Data appear Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	2.274	Mean	0.0526
SD	2.604	SD	1.393
95% DL/2 (t) UCL	2.862	95% H-Stat (DL/2) UCL	4.809
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	1.956	Mean in Log Scale	0.0863
SD	2.981	SD in Log Scale	1.343
95% MLE (t) UCL	2.629	Mean in Original Scale	2.279
95% MLE (Tiku) UCL	2.624	SD in Original Scale	2.6
		95% t UCL	2.866
		95% Percentile Bootstrap UCL	2.89
		95% BCA Bootstrap UCL	2.913
		95% H UCL	4.505
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	1.017	Data appear Gamma Distributed at 5% Significance Level	
Theta Star	2.598		

nu star		95.61		
A-D Test Statistic		0.596	Nonparametric Statistics	
5% A-D Critical Value		0.777	Kaplan-Meier (KM) Method	
K-S Test Statistic		0.777	Mean	2.288
5% K-S Critical Value		0.133	SD	2.569
Data appear Gamma Distributed at 5% Significance Level			SE of Mean	0.35
			95% KM (t) UCL	2.874
Assuming Gamma Distribution			95% KM (z) UCL	2.864
Gamma ROS Statistics using Extrapolated Data			95% KM (jackknife) UCL	2.871
Minimum	1.0000E-6		95% KM (bootstrap t) UCL	2.967
Maximum	10.95		95% KM (BCA) UCL	2.874
Mean	2.258		95% KM (Percentile Bootstrap) UCL	2.881
Median	1.17		95% KM (Chebyshev) UCL	3.814
SD	2.618		97.5% KM (Chebyshev) UCL	4.475
k star	0.281		99% KM (Chebyshev) UCL	5.772
Theta star	8.048			
Nu star	30.86	Potential UCLs to Use		
AppChi2	19.17		95% KM (BCA) UCL	2.874
95% Gamma Approximate UCL (Use when n >= 40)		3.635		
95% Adjusted Gamma UCL (Use when n < 40)		3.682		
Note: DL/2 is not a recommended method.				
Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.				
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).				
For additional insight, the user may want to consult a statistician.				